

General Disclaimer

One or more of the Following Statements may affect this Document

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

X-843-83-4

(NASA-CR-172702) NASCOM NETWORK GROUND
COMMUNICATIONS AVAILABILITY REPORT (For
Aerospace and Communications Corp.) 102 p
HC A06/MF A01 CSCL 17B

N83-28296

Unclas
G3/32 22754

NASCOM NETWORK GROUND COMMUNICATIONS AVAILABILITY REPORT



MAY 1983

NASA

National Aeronautics and
Space Administration

Goddard Space Flight Center
Greenbelt, Maryland 20771

NASCOM NETWORK
GROUND COMMUNICATIONS AVAILABILITY REPORT
MAY 1983

Prepared by
FORD AEROSPACE AND COMMUNICATIONS CORPORATION
UNDER CONTRACT NAS 5-27550

for
THE NASA COMMUNICATIONS DIVISION
(CODE 840)
NETWORKS DIRECTORATE

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland 20771

NASCOM NETWORK

ORIGINAL PAGE IS
OF POOR QUALITY

GROUND COMMUNICATIONS AVAILABILITY REPORT

CONTENTS

	<u>PAGE</u>
INTRODUCTION	1
General	1
Definition of Terms	1
Availability Formulae and Calculations	2
Data Sources	2
SUMMARY OF NASCOM NETWORK PERFORMANCE	5
Data Discussion	5
ANALYSIS OF INDIVIDUAL CIRCUITS	7
General	7
INDIVIDUAL CIRCUIT SUMMARIES	10
TROUBLE CATEGORIES LEGEND.	12
LONG TERM NETWORK ANALYSIS	31
CIRCUITS WITH LOW AVAILABILITIES	81
SELECTED CIRCUIT ANALYSIS	82
INTRODUCTION	82
SPECIAL PRESENTATION - ANALOG WIDEBAND	92
NETWORK REVIEW AND ANALYSIS DATA ACTIVITY	94
GLOSSARY	95

TABLES

<u>Table</u>		<u>Page</u>
I	Circuits That Failed To Meet Objective	7
II	Circuits With Lost Time By Trouble Category With Scheduled Operating Hours, Availability Percent and Mean Time To Restore	13
III	Lost Time and Events By Trouble Category For Each Mode Of Service	29

TABLES (CONT)

<u>Table</u>		<u>Page</u>
IV	Nascom Network Circuit Availabilities	31
V	Network Lost Time By Trouble Category For Current Month	88
VI	Network Circuits By Mode For One Year	89
VII	Network Statistics For One Year	89

ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1	Nascom Network Trunking Scheme	3
2	Availability Percent For A Period Of One Year	6
3A	Percentage of Lost Time By Trouble Category For The Current Month	27
3B	Percentage of CMA's By Mode of Service For The Current Month	28
4	Sixteen-month B- Category MTTRes Trend	90

NASCOM NETWORK
GROUND COMMUNICATIONS AVAILABILITY REPORT

ORIGINAL PAGE IS
OF POOR QUALITY

INTRODUCTION

The Nascom Network is a global point-to-point ground communications system developed to support manned space flight and unmanned scientific satellite missions, of the National Aeronautics and Space Administration of the United States of America. Tracking stations and NASA facilities around the world are interconnected by long line communications circuits using a combination of satellites, submarine and landline cables, and microwave segments. Dedicated individual circuits carry teletype, voice or high-speed data or a combination of these in realtime support of NASA's missions. The hub of this system is the message switching computer and other conferencing, monitoring and patching facilities at the Goddard Space Flight Center, Greenbelt, MD.

GENERAL

This report presents a performance analysis of these Nascom Network circuits, and it is prepared and distributed monthly using data accumulated through the last day of the month preceding its cover date. An objective of 99.80 percent availability has been established for all network circuits and an acceptable level of 99.50. A network narrative summary for the current month is presented first, which includes changes in network configurations, current month's totals for modes of service and trouble category losses, a discussion of trends, and significant losses that affected the performance indexes of individual or groups of circuits. This is followed by a table and narrative summary of those circuits that failed to meet the objective. Lost time and interruption tables showing all circuits affected by outages, by trouble category, with their total time and events, scheduled operating hours, and individual availability indexes also are presented. A special presentation is made on selected circuits (Selected Circuits Analysis) whose availabilities have or continue to affect the overall network availability.

DEFINITION OF TERMS

Narrative and tabular data are given in alphanumeric order by the geographic location of the circuits' terminal points. Circuits which connect Goddard (GSFC) directly with a tracking station, switching center, or other facility are listed under the appropriate geographic name of the terminal, such as, "Houston (JSC)" or "Canberra." Circuits which connect GSFC with more than one terminal location are listed under a joint heading, such as "Cape Canaveral XY & Houston (JSC)." Those facilities which are served by a switching center or patch facility other than GSFC are shown under their terminal location followed by a "/" and the name of a facility that serves them, such as, "Canberra STDN (Orroral Valley)/Canberra." Further, when circuits are routed by designated systems, they are so indicated by a notation such as "via COMPAC" or "via INTELSAT." In addition, when there is more than one activity at the same geographic location, the activity is designated in parenthesis, such as "Cambridge (MIT)" or "Cambridge (SAO)." This same determination applies when the activity may be better known by another more common name, such as "Cleveland (Lewis Research Center)."

The terms "transmit" and "receive," when used, denote transmission to and reception from a "terminal point" with GSFC or the named intermediate switching center as the initial point. Prior to December 1979, lost time and scheduled

operating hours were calculated on each path (TX/RX) individually. The figures shown in this report reflect a combination of both paths on each circuit.

AVAILABILITY FORMULAE AND CALCULATIONS

Operational availability, as used in this report, is defined as the probability that a system or equipment, when used under stated conditions and in an actual supply environment, shall operate satisfactorily at any given time. The following formulae were used to obtain the availability parameters:

$$A_o = \frac{MTBCMA}{MTBCMA + MDT} \times 100, \text{ or; } \frac{\text{Uptime}}{\text{Uptime} + \text{Downtime}} \times 100,$$

where MTBCMA is defined as Mean-Time-Between-Corrective-Maintenance-Actions and MDT is defined as Mean Downtime, including supply downtime and administrative downtime during the same time interval. The term Corrective-Maintenance-Action (CMA), as used in this text, denotes any action to restore an interrupted circuit or system and is classified as belonging to one of the ten trouble categories defined within this report.

Previous availability reports presented a parameter that the Network Review & Analysis Section, in generating subsequent data, should define. Particular note should be taken of the distinction made between Mean-Time-To-Restore (MTTRes) and Mean-Time-To-Repair (MTTR). In the vast majority of cases, telephone administrations support operating equipment with either local or centralized inventories of spare units, and the "repair" function is very rarely involved in the restoration of service. In future discussions, the MTTRes term is used to indicate the time required to obtain a replacement unit from stock including all delay times such as awaiting transportation, weather, higher priority work, etc. The MTTR defines the time required to physically repair the defective unit usually at a distant facility and does not reflect RF anomalies, no trouble found or other categories where a unit was not at fault but a degradation of service was evident. Future reports will reveal the MTTRes baseline data as a more meaningful statistic than MTTR.

DATA SOURCES

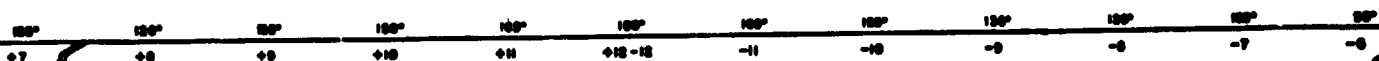
The data or information used in preparing this report has been obtained from the Nascom Network Trouble Tickets (GSFC Form 840-7), NASA Circuit Logs (GSFC Form 22-8T), and Daily Communication Reports (DCR). They provide most of the data or information used in the Availability Report. Whenever an ambiguity appears between the Trouble Tickets and a DCR, or in any of the other data sources, Network Review and Analysis Section personnel contact the site or station involved to clarify, correct, or reconcile the data. Further, failures and losses that involve domestic and/or international record carriers are discussed and reconciled prior to their use in this report.

To provide a "common denominator" for recording and interpreting trouble areas, various categories have been devised. Incidents are classified on this basis, and on the basis of mode of operation, permitting interruption patterns to be determined quantitatively. The category and mode designations are shown in the Trouble Category Legend.

Comments, questions or conflicts concerning data used in this report should be directed to the Ford Aerospace & Communications Corporation, 4920 Niagara Road, College Park, Maryland 20740, Attention: Supervisor, Network Review & Analysis. Request for additional copies, or to be added to or deleted from the mailing list should be directed to the same address.

ORIGINAL PAGE IS
OF POOR QUALITY

120°	120°	120°	120°	120°	120°	120°	120°	120°	120°	120°	120°
+7	+8	+9	+10	+11	+12-13	-11	-10	-9	-8	-7	-6



NASCOM NETWORK

TRUNKING SCHEME

FIG. 1

FOLDOUT FRAME

SUMMARY OF NASCOM NETWORK PERFORMANCE FOR APRIL, 1983

DATA DISCUSSION

The network availability increased from 99.45 percent to 99.75 percent for the month of April; it averaged 99.74 percent for the past 12 months.

The number of active circuits increased from 630 to 646 in April. The individual circuit modes were 248 for analog voice grade; 193 for analog voice/data; 65 for digital wideband data; 54 for teletype; 52 for digital narrowband data; 13 for analog wideband data; 13 for analog narrowband data; 5 for video; and 2 for facsimile.

Interruptions to service were incurred by 188 circuits during 449465:46 hours of scheduled operating time and resulted in a combined lost service of 1,113:47 hours. The April lost time was distributed among seven of the nine modes of service in the following manner: 320:10 hours on 45 analog voice grade circuits; 45:56 hours on 12 teletype circuits; 235:18 hours on 74 analog alternate voice/data circuits; 145:19 hours on 24 digital narrowband data circuits; 270:51 hours on 30 digital wideband data circuits; 75:07 hours on one video circuit; and 21:06 hours on 2 analog narrowband data circuit.

Lost time was incurred in nine of the ten trouble categories with the largest being 760:49 hours for leased system fault. This represents 68.85 percent of total outage time. The other totals were 51:51 hours, 4.65 percent for acts of nature damage; 206:57 hours, 18.58 percent for carrier control time; 41:53 hours, 3.76 percent for undetermined causes; 6:11 hours, 0.03 percent for government equipment fault; 4:50 hours, 0.43 percent for electrical power; 3:02 hours, 0.27 percent for man-made damage; 24:12 hours, 2.17 percent for radio frequency anomalies; and 14:02 hours, 1.26 percent for government facilities.

Of the 188 circuits that incurred lost time, 101 had operational availabilities below those specified for their transmission media, (as defined on page 1). They involved service to 79 stations and their combined total lost time of 106:02 hours represented 95.71 percent of the network outage.

An outage of approximately 40 minutes commencing 1905Z on 10 April affected 12 circuits due to a microwave failure between Greenbelt, Maryland and Garden City, Virginia. The 12 circuits had a combined lost time of 7:48 hours.

A noise problem on the RCA-F2 satellite receiver commencing 2053Z, 27 April, affected GWAV-8092 which could not meet signal-to-noise ratio specifications. It was later found that 34 additional circuits were affected by the noise which caused the commercial carrier to switch to the F1 satellite, transponder 17. The combined lost time due to the interference was approximately 615:08 hours.

PRECEDING PAGE BLANK NOT FILMED

ORIGINAL PAGE IS
OF POOR QUALITY

The network was affected on 26 April due to the commercial carrier working on a different baseband in Alcantana, Spain. The disruption caused a 24 minute outage on 21 circuits for a total lost time of 8:24 hours.

Several sites throughout the network were impaired by commercial power failures which affected leased circuit operations. The sites were: Moree earth station on 29 April for 13 minutes; power fluctuations at Gandoul earth station on 6 April for 6 minutes; power failure at Gilmore Creek on 10 April for 5 minutes affecting 8 circuits; and another on 13 April at Guam for 1:15 hours.

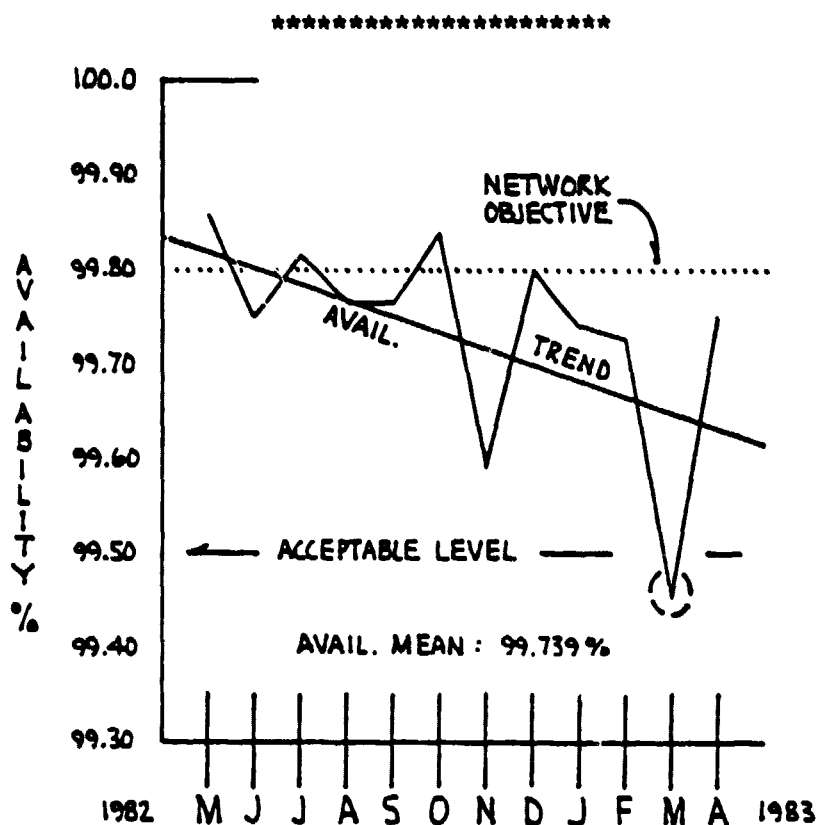


FIG. 2: NETWORK AVAILABILITY.

Figure 2: Summary

The graph above shows the network availability monthly plots for the past 12 consecutive months; May 1982 to April 1983; and includes the respective linear regression trend. The availability plot for April (99.75%) did not meet the network objective nor did the 12 month mean, 99.739%. The unfavorable trend will continue to be influenced by the March 1983 plot (99.45%) due to "Acts of Nature Damages." The NASCOM support availability towards STS-6 in April was 99.756% which appears compatible to the network as a whole. Refer to last months Availability report on specific STS-6 statistics which commenced 2 April, 1130Z.

ANALYSIS OF INDIVIDUAL CIRCUITS

ORIGINAL PAGE IS
OF POOR QUALITYGENERAL

This section of the report examines the performance of individual circuits as compared to the overall performance objective.

A table of circuits that failed is presented first, showing their respective current month's availability percent, the percentage difference between their current month's figure and the objective, and the number of consecutive months the circuit has failed, as shown in Table I. This is followed by the Individual Circuit Summaries which presents an analysis in narrative form of these circuits for the current month. In general, the discussions are limited to significant losses (1:00 hour or greater) with reasons and locations of failures and their affect on the overall performance of the circuit.

Also presented in this section is Table II showing all circuits with lost time recorded against them defined by trouble category with their availability percents and the average duration (Mean Time To Restore) of their respective failures. This is followed by Tables IIIA and IIIB depicting loss time by trouble category for each mode of service.

Table I

Circuits That Failed To Meet Objectives: 101

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SERVICE	AVAILABILITY PERCENT	PERCENT DIFFERENCE	CONSECUTIVE MONTHS
Ascension Island via Etam (IS IV A F-1)	GDA-58573	VDA	99.31	.49	2
Ascension Island via Andover (WESTAR/IS V F-2)	WUI-175	WDD	99.19	.61	2
	-197	WDD	99.56	.24	2
	-198	WDD	99.47	.33	2
Bermuda Island via Andover (IS V F-2)	GDA-58550	VDA	97.86	1.94	4
	-58552	VDA	98.31	1.49	1
Bermuda Island via Andover (WESTAR & IS V F-2)	WUI-194	WDD	99.76	.04	2
Bermuda Island via Manahawkin Sub Cable	GDA-58440	VDA	99.06	.74	1
	-59211	VDA	99.36	.44	1
Bethesda (Mr. Beggs)	74PL-26479	VOC	93.56	6.24	1
Boulder (Univ of Colo-Lasp)	GDA-58992	DDS	97.83	1.97	3
	-58993	DDS	97.85	1.95	3
Canberra via Jamesburg (IS IV A F-8)	GP-59469	VOC	99.69	.11	1
Canberra via Paumalu (COMSTAR & IS IV A F-6)	GW-58347	WDD	99.79	.01	1
Canberra via San Francisco (M3/COMPAC Cables)	GDA-58419	VDA	99.61	.19	2
	-58474	VDA	98.60	1.20	1
Canberra DSS-43 (Tidbinbilla)/ Canberra	NCV-204	VDA	95.96	3.84	1
Cape Canaveral AFS (RTCS)/ Houston (JSC)	GDA-58732	DDS	99.09	.71	1
Chilton (IRAS CC)	WUI-186	WDL	98.25	1.55	4

ORIGINAL PAGE IS
OF POOR QUALITY

Table I
Circuits That Failed To Meet Objectives (Cont'd)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SERVICE	AVAILA- BILITY PERCENT	PERCENT DIFFER- ENCE	CONSECU- TIVE MONTHS
Lakar via Etam (IS IV A F-1)	GDA-58940	VDA	99.72	.08	12
Dakar via Etam (WESTAR & IS IV A F-1)	WUI-182	WDD	92.48	7.32	6
	-183	WDD	92.48	7.32	1
	-184	WDD	92.48	7.32	3
Darmstadt (ESRO)/Madrid	TGDR-1	TTY	99.39	.41	1
Downey (RI)/Houston (JSC)	GP-58560	VOC	99.32	.48	1
Dryden-Goldstone-Houston Huntsville-Kauai-Kennedy	GWAV-8092	VID	89.57	10.23	1
Dryden FRC (BTCF)/Houston (JSC)	GP-58384	VOC	97.09	2.71	2
	-58685	VOC	99.70	.10	1
	-58996	VOC	98.92	.88	1
Dryden FRC (BTCF)/Pasadena WCSC	7GT-353	TTY	99.54	.26	1
Goldstone	GDA-58582	VDA	99.53	.27	3
Goldstone/Pasadena WCSC	GDA-58270	VDA	99.50	.30	1
	-58271	VDA	99.45	.35	1
	7GT-339	TTY	97.79	2.01	3
Greenbelt (GSFC) & Houston (JSC)/White Sands (NGT)	NAX-8213	WDD	97.35	2.45	1
Houston (JSC)	GD-58539	DDS	99.74	.06	1
	-58923	TTY	99.78	.02	1
	-58924	TTY	99.78	.02	1
	-59112	TTY	99.47	.33	1
	-58597	VOC	99.69	.11	1
	N-66001	VOC	99.62	.18	2
	-66002	VOC	98.19	1.61	2
	-66003	VOC	94.19	5.61	2
Houston (JSC) via SATCOM	GNAV-8054	VOC	99.78	.02	2
	-8059	VOC	99.69	.11	1
Houston (JSC) via WESTAR	GDJS-800032	WDD	99.51	.29	1
Houston (JSC) & Washington D.C. (NASA Headquarters)	GP-59125	VOC	99.52	.28	1
Huntington Beach (MCD)/ Pasadena WCSC	7GDP-89	VDA	99.26	.54	1
Huntsville (MSFC)/Houston (JSC)	GP-58838	VOC	99.51	.29	1
Kauai via Hawley-Sunset Beach (COMSTAR)	GDA-58423	VDA	99.52	.28	1
Kauai via San Francisco (M3 Cable)	GDA-58553	DDS	98.33	1.47	7
London Switching Center	GDA-58689	VDA	98.41	1.39	3
London Switching Center/ Madrid via Algorta	DPLR-3	VDA	99.35	.45	3
London Switching Center/ Madrid via Bilbao	DPLR-4	VDA	99.42	.38	2
	XPLR-1	VDA	98.85	.95	2
Madrid via Etam (WESTAR & IS V F-3)	E-1044	WDD	98.75	1.05	6
	WUI-188	WDD	99.25	.55	1
	-189	WDD	99.24	.56	1

ORIGINAL PAGE IS
OF POOR QUALITY

Table I

Circuits That Failed To Meet Objectives (Cont'd)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SERVICE	AVAILABILITY PERCENT	PERCENT DIFFERENCE	CONSECUTIVE MONTHS
Madrid via Andover-Aguimes (WESTAR & IS V F-2)	WUI-199	WDD	98.59	1.21	12
Madrid via TAT-5 Cable	GDA-58456	VDA	98.11	1.69	5
	-58651	DDS	99.06	.74	3
	-58652	VDA	99.65	.15	12
Madrid via TAT-6 Cable	GDA-58447	VDA	99.60	.20	2
	-59053	DDS	99.71	.09	3
Merritt Island	GDA-58477	VDA	99.67	.13	2
Merritt Island via WESTAR	WDMI-800024	WDD	99.51	.29	1
Moffett Field (ARC)/Pasadena WCSC	GDA-58268	DDS	97.34	2.46	2
	-58269	DDS	97.56	2.24	4
	-58379	DDS	99.51	.29	4
	-58632	DDS	98.40	1.40	2
	GP-58226	VOC	99.60	.20	1
	NST-3013	TTY	99.52	.28	2
Pasadena WCSC	GDA-58532	DDS	99.37	.43	1
	-58620	VDA	99.79	.01	2
	-58623	DDS	99.61	.19	3
	-58624	DDS	99.78	.02	3
	-58692	VDA	95.28	4.52	1
	-58694	VDA	99.79	.01	3
Pasadena WCSC via SATCOM	GWDD-5372	WDD	98.90	.90	6
Rendondo Beach (TRW CTV)	CD-58281	DDS	99.47	.33	1
Santiago via Etam (WESTAR & IS V F-3)	L-1329	WDD	99.35	.45	1
	WUI-190	WDD	99.39	.41	1
	-191	WDD	99.45	.35	1
Sioux Falls (EROS)/GSFC (Bldg 23)	GD-58420	DDS	97.66	2.14	1
	TP-58421	VOC	99.58	.22	1
Sunnyvale (AFSCF)/Pasadena WCSC	7GT-354	TTY	99.64	.16	2
Toulouse (CNES)/Madrid	TGTR-1	TTY	99.70	.10	1
Vandenberg AFB (WSMC)/Pasadena WCSC	GDA-58722	VDA	99.79	.01	1
Washington D.C. (ISCC)	74FD-7248	DAT	97.11	2.69	1
Washington (NASA HQS)	74GL-25296	VOC	85.51	14.29	2
Wessling (GSOC)/Madrid	TGFR-1	TTY	99.39	.41	5
White Sands (TDRSS/NGT)	GDA-58578	VDA	99.46	.34	1
	-58890	VDA	99.50	.30	1
	-58891	VDA	99.15	.65	1
	GP-58487	VOC	98.36	1.44	1
	-58618	VOC	99.49	.31	2
	-58619	VOC	99.53	.27	1
	-58887	VOC	98.89	.91	1
	-58888	VOC	98.80	1.00	2
	-58889	VOC	98.63	1.17	1
White Sands (TDRSS/NGT) & Houston (JSC) Broadcast	GAX-8211	WDD	97.35	2.45	1

INDIVIDUAL CIRCUIT SUMMARIES

ASCENSION ISLAND via ETAM (IS IV A F-1) - GDA-58573.

The circuit experienced seven interruptions in April and it appears that six CMA's occurred during shuttle support. The trouble narratives indicate transmission level adjustments to restore service with the exception of the seventh CMA, on 18 April for 2:08 hours, due to a faulty wiring option.

BERMUDA ISLAND via ANDOVER (IS IV F-2) - GDA-58550.

There were six outages in April on -58550 with a combined lost time of 15:25 hours. One action was related to tracking problems at Bermuda, and the other five were 'open' conditions due to a mispatch, 'pulled' equalizers, or ITT-Washington related.

BOULDER (UNIV. OF COLORADO-LASP) - GDA-58992 -58993.

Both circuits had seven outages, respectively, in April and appear to be random disruptions. Three of the seven CMA's were a result of carrier failures along the GSFC/LASP link, another three indicated unable to pass data with no positive restorative actions, and the seventh CMA on 15 April for 0:46 hours due to a mud slide in West Virginia.

CHILTON (IRAS CC) - WUI-186.

The digital wideband data circuit experienced four breaks in service during April. One failure occurred during STS-6 support, 5 April 1530Z, but was unisolated. The other three failures were random. Total combined outage time was 12:38 hours which calculates to a mean-restore-time of 3.16 hours and is unfavorable in support of network operations.

DAKAR via ETAM (WESTAR & IS IVA) - WUI-182, 183R, & 184R.

Power problems at the Gandoul earth station (Dakar, Africa) on 6 April for 6 minutes affected all three circuits. In addition, all circuits were disrupted on 19 April for 5:40 hours due to a bad up-converter card. The 6 CMA's had a combined lost time of 17:18 hours.

DARMSTADT (ESRO)/MADRID - TGDR-1.

The circuit experienced five outages in April and all are related to carrier system problems. Four of those CMA's are distinctly related to the Madrid facility. The circuit has an April availability of 99.39% due to a total of 4:24 outage hours.

LONDON SWITCHING CENTER/MADRID via ALGORTA - DPLR-3.

The alternate voice/data circuit had 11 interruptions in April but were random and not related. This months availability for DP-3 is 99.35% due to 4:39 total outage hours.

ORIGINAL PAGE IS
OF POOR QUALITY

LONDON SWITCHING CENTER/MADRID via BILBAO -XPLR-1.

It appears that the outages on XP-1 are similar to those aforementioned on DP-3. There were 9 CMA's during April accruing 8:15 hours. A bad jumper in London on 12 April for 3:05 hours was restored after the circuit was reported open.

MADRID via ETAM (WESTAR & IS V) - E-1044.

The digital wideband data circuit linking GSFC/Madrid experienced 12 CMA's for 9:00 hours in April. It appears that 11 of these outages were in the European area and 9 of the 12 were Satcom/mux failures. The circuit has exhibited low availability statistics for the last 6 consecutive months.

MADRID via ETAM (WESTAR & IS V) - WUI-188R, 189R, & 199.

WUI-189 and -199 had seven outages in April while -188 experienced eight failures. It appears that all of the circuits were affected at a systems level because the restorative actions for each are similar. The most significant outage occurred 23 April at 2009Z for 3:47 hours due to satellite interference. Total lost time for the 22 CMA's is 21:00 hours.

MADRID via TAT-5 CABLE - GDA-58456.

There were 13 CMA's in April accounting for 13:38 hours. The circuits' April availability is 98.11% based on 720.0 operational hours. A foreign tone on the circuit 1 April incapacitated its operations 1:03 hours. Other outages indicate that noise and transmission levels are not within tolerance. Noise bursts on 29 April accrued 4:12 hours and another 3:05 hours on the 30th due to high levels from an adjacent channel in Greenhill, Rhode Island.

WHITE SANDS (TDRSS, IT) - GP-58887/8/9.

Each circuit logged 7 failures in April. It appears that the CMA's are random failures and not related. Noise is reported on 3 different incidents followed by a microwave failure (Greenbelt-Garden City) on 10 April for 38 minutes; a mud slide on the 15th for 2:52 hours; and a cable problem in Kansas on the 23rd for 2:32 hours. The combined lost time on these circuits was 26:31 hours.

N A S C O M F A I L U R E A N A L Y S I S P R O G R A M

T R O U B L E C A T E G O R I E S

L E G E N D

CODE DEFINITIONS (RFO'S) AND KEYWORDS ARE UNDERLINED FOR EACH CATEGORY

- A UNDETERMINED CAUSES - N.T.F.'S, TEST OK'S, AND OTHER SHORT LOSSES
(20 mins or less) THAT CLEARED BEFORE ISOLATION, OR CHECKOUT.
- B LEASED SERVICES FAULT (LOSS OF SERVICE DUE TO FAILURE OR DEGRA-
DATION OF SERVICE CAUSED BY THE COMMERCIAL CARRIERS EQUIPMENT,
SYSTEM OR FACILITIES).
- C ISOLATION/COORDINATION AND/OR COMMERCIAL CARRIER "CONTROL" TIME,
(INCLUDES C.W.C.'S AND PERSONNEL ACTIONS/ERRORS).
- D LOSS OF SERVICE DUE TO GOVERNMENT PERSONNEL FAULT.
- E GOVERNMENT PROVIDED COMMUNICATIONS EQUIPMENT FAULT.
- F GOVERNMENT PROVIDED FACILITIES FAULT (OTHER THAN COMMUNICATIONS
EQUIPMENT).
- G RADIO FREQUENCY ANOMALIES - FADING, SOLAR CONJUNCTION NOISE INTER-
FERENCE FROM OTHER SIGNALS OR OTHER "PROPAGATION DIFFICULTIES".
- M MAN-MADE DAMAGE TO OR LOSS OF FACILITIES OR EQUIPMENT BY OTHER
THAN COMMUNICATIONS PERSONNEL.
- N NATURAL (ACTS OF NATURE) DAMAGE TO OR LOSS OF EQUIPMENT OR
FACILITIES.
- P FAILURE OF STATION OR FACILITIES ELECTRICAL POWER.

CODE

OUTAGE CHARGED

- A, B, C TO THE RESPONSIBLE COMMERCIAL CARRIER: FULL CHARGE
FOR PERFORMANCE EVALUATION AND REBATE/CREDIT WHEN
APPLICABLE.
- G, M, N, & P TO THE RESPONSIBLE COMMERCIAL CARRIER FOR REBATE
CREDIT ONLY.
- (A), D, E, F, & (P) FOR NASCOM PERFORMANCE ONLY.

NOTE: A & P MAY BE EITHER COMMERCIAL CARRIER OR NASCOM FAULTS DEPENDING ON
CIRCUMSTANCES.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	TROUBLE CATEGORIES LOST TIME AND EVENTS										SCHEDULED OP HOURS	AVAIL- ABILITY/ MTTRs
			A	B	C	D	E	F	G	H	M	P	TOTAL OUTAGE	
Ascension Island via PLM (IS IV A F-1)	GDA-58573	VDA	-	1:43 3	3:15 4	-	-	-	-	-	-	-	4:58 7	99.31 143
Ascension Island via Andover (WESTAR/IS V F-2)	WII-175	MDD	-	-	-	-	2:27 2	3:21 1	-	-	-	-	5:48 3	99.19 1:56
	-197-R	MDD	-	-	-	-	-	3:12 1	-	-	-	-	3:12 1	99.58 1:12
	-198-R	MDD	-	-	3:38 2	-	-	3:12 1	-	-	-	-	3:50 3	99.47 1:17
Reynolds Island via Andover (IS IV F-2)	GDA-58550	VDA	-	1:21 2	14:04 4	-	-	-	-	-	-	-	15:25 6	97.86 2:34
	-58551	VDA	-	3:31 1	-	-	-	-	-	-	-	-	3:31 1	99.93 3:31
	-58552	VDA	-	12:09 4	-	-	-	-	-	-	-	-	12:09 4	98.31 1:02
Reynolds Island via Andover (WESTAR & IS V F-2)	WII-194	MDD	-	1:42 1	-	-	-	-	-	-	-	-	1:42 1	99.76 1:42
Reynolds Island via Jacksonville Submarine	GDA-59183	VDA	-	3:48 2	-	-	-	-	-	-	-	-	3:48 2	99.89 3:24
	-59184	VDA	-	3:33 1	-	-	-	-	-	-	-	-	3:33 1	99.92 3:31
Reynolds Island via Jackson Submarine	GDA-58660	VDA	-	6:44 3	-	-	-	-	-	-	-	-	6:44 3	99.186 2:05
	-59211	VDA	3:03 1	6:32 2	-	-	-	-	-	-	-	-	6:35 1	99.76 1:07
Reynolds (On a Reges)	ZAPL-26479	MDC	-	56:20 1	-	-	-	-	-	-	-	-	46:20 1	91.56 50:50
Reynolds via FV-6 Cable & 100	GDA-59679	VDA	-	3:19 1	3:20 1	-	-	-	-	-	-	-	3:19 2	99.91 3:00

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	TROUBLE CATEGORIES LOST TIME AND EVENTS										TOTAL OUTAGE HOURS	SCHED OP HOURS	AVAIL- ABILITY/ PERCENT
			A	B	C	D	E	F	G	H	N	P			
Boulder (Only of Cable-LASP)	GMA-58992	DOS	1:12 1	12:28 3	1:11 2	-	-	-	-	-	1:46 1	-	15:17 7	720	97.84 2:15
	-58993	DOS	1:12 1	12:28 3	1:01 2	-	-	-	-	-	1:46 1	-	15:27 7	720	97.85 2:15
	GMA-58504	DOS	-	-	-	-	-	-	-	-	-	1:11 1	1:11 1	720	99.97 1:11
Cabletron via Jamesburg (IS IV A P-6)	-58506	VDA	-	1:44 1	-	-	-	-	-	-	-	1:11 1	1:57 2	720	99.87 1:29
	-58521	VDA	-	-	-	-	-	-	-	-	-	1:11 1	1:11 1	720	99.97 1:11
	GP-59468	VDC	-	1:44 1	-	-	-	-	-	-	-	-	1:44 1	720	99.80 1:44
Cabletron via Panama (COMSTAR & IS IV A P-6)	-59469	VDC	-	1:44 1	-	-	-	-	-	-	-	-	1:44 1	240	99.69 1:44
	GMA-58200	WDD	-	1:14 1	-	-	-	-	-	-	-	1:11 1	1:27 2	720	99.96 1:15
	-58346	WDD	1:10 1	-	-	-	-	-	-	-	-	-	1:10 1	720	99.98 1:10
Cabletron via Vancouver (Compac Cable)	-58347	WDD	1:08 1	1:52 3	-	-	-	-	-	-	-	-	1:30 4	720	99.79 1:21
	-58348	WDD	-	1:17 1	-	-	-	-	-	-	-	-	1:17 1	720	99.96 1:17
	GMA-58531	DOS	-	1:30 2	-	-	-	-	-	-	-	-	1:30 2	720	99.93 1:15
Cabletron via San Francisco (M2/Compac Cables)	GMA-58548	DOS	1:05 1	-	-	-	-	-	1:48 1	-	-	-	1:53 2	720	99.88 1:27
	GMA-58419	VDA	-	2:48 2	-	-	-	-	-	-	-	-	2:48 2	720	99.61 1:24

TABLE II

TOPI NAME STATION	CIRCUIT NUMBER	FROM SVC	A	K	C	D	E	F	G	H	I	J	M	N	P	TOTAL OUTGOING	NUMBER OF CIRCUITS	AVAILABLE CIRCUITS PER CIRCUIT
London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6	VOA-5864/6	VOA	-	1:21	6:42	-	-	-	-	-	-	-	-	-	-	10:03	120	99,640
	VOA-5864/6	VOA	-	2	1	-	-	-	-	-	-	-	-	-	-	1	120	99,640
	VOA-5864/6	VOA	-	29:06	-	-	-	-	-	-	-	-	-	-	-	29:06	120	99,640
	VOA-5864/6	VOA	-	1	-	-	-	-	-	-	-	-	-	-	-	1	120	99,640
	VOA-5864/6	VOA	-	-	1:18	-	-	-	-	-	-	-	-	-	-	1:18	120	99,640
	VOA-5864/6	VOA	-	6:12	1	-	-	-	-	-	-	-	-	-	-	6:12	120	99,640
	VOA-5864/6	VOA	-	140	1	-	-	-	-	-	-	-	-	-	-	140	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6 London via VOA-5864/6	VOA-58601	VOA	-	140	1	-	-	-	-	-	-	-	-	-	-	140	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640
	VOA-5864/6	VOA	-	1:11	1	-	-	-	-	-	-	-	-	-	-	1:11	120	99,640

TABLE II

CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS

AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

Component	Part Number	QTY	Unit Price	Total Price	Material	Assembly	Test	Final	Shipping	Notes
Resistor	100K-100	100	0.01	1.00	100K	100K	100K	100K	100K	100K
Capacitor	100K-100	100	0.01	1.00	100K	100K	100K	100K	100K	100K
IC	74180	1	1.50	1.50	74180	74180	74180	74180	74180	74180
IC	74181	1	1.50	1.50	74181	74181	74181	74181	74181	74181
IC	74182	1	1.50	1.50	74182	74182	74182	74182	74182	74182
IC	74183	1	1.50	1.50	74183	74183	74183	74183	74183	74183
IC	74184	1	1.50	1.50	74184	74184	74184	74184	74184	74184
IC	74185	1	1.50	1.50	74185	74185	74185	74185	74185	74185
IC	74186	1	1.50	1.50	74186	74186	74186	74186	74186	74186
IC	74187	1	1.50	1.50	74187	74187	74187	74187	74187	74187
IC	74188	1	1.50	1.50	74188	74188	74188	74188	74188	74188
IC	74189	1	1.50	1.50	74189	74189	74189	74189	74189	74189
IC	74190	1	1.50	1.50	74190	74190	74190	74190	74190	74190
IC	74191	1	1.50	1.50	74191	74191	74191	74191	74191	74191
IC	74192	1	1.50	1.50	74192	74192	74192	74192	74192	74192
IC	74193	1	1.50	1.50	74193	74193	74193	74193	74193	74193
IC	74194	1	1.50	1.50	74194	74194	74194	74194	74194	74194
IC	74195	1	1.50	1.50	74195	74195	74195	74195	74195	74195
IC	74196	1	1.50	1.50	74196	74196	74196	74196	74196	74196
IC	74197	1	1.50	1.50	74197	74197	74197	74197	74197	74197
IC	74198	1	1.50	1.50	74198	74198	74198	74198	74198	74198
IC	74199	1	1.50	1.50	74199	74199	74199	74199	74199	74199
IC	74200	1	1.50	1.50	74200	74200	74200	74200	74200	74200
IC	74201	1	1.50	1.50	74201	74201	74201	74201	74201	74201
IC	74202	1	1.50	1.50	74202	74202	74202	74202	74202	74202
IC	74203	1	1.50	1.50	74203	74203	74203	74203	74203	74203
IC	74204	1	1.50	1.50	74204	74204	74204	74204	74204	74204
IC	74205	1	1.50	1.50	74205	74205	74205	74205	74205	74205
IC	74206	1	1.50	1.50	74206	74206	74206	74206	74206	74206
IC	74207	1	1.50	1.50	74207	74207	74207	74207	74207	74207
IC	74208	1	1.50	1.50	74208	74208	74208	74208	74208	74208
IC	74209	1	1.50	1.50	74209	74209	74209	74209	74209	74209
IC	74210	1	1.50	1.50	74210	74210	74210	74210	74210	74210
IC	74211	1	1.50	1.50	74211	74211	74211	74211	74211	74211
IC	74212	1	1.50	1.50	74212	74212	74212	74212	74212	74212
IC	74213	1	1.50	1.50	74213	74213	74213	74213	74213	74213
IC	74214	1	1.50	1.50	74214	74214	74214	74214	74214	74214
IC	74215	1	1.50	1.50	74215	74215	74215	74215		

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	TROUBLE CATEGORIES LOST TIME AND HOURS										TOTAL OUTAGE HOURS	SCHED OP HOURS	AVAIL- ABILITY/ PERCENT
			A	B	C	D	E	F	G	H	N	P			
Bryden (RTT)/Bonsdon (PAC) - Cont.	GP-58996	VOC	-	-	7:55 1	-	-	-	-	-	-	-	7:55 1	720	98.92 7:55
	ACT-151	TTY	-	-	1:20 1	-	-	-	-	-	-	-	1:20 1	720	99.54 1:20
	CDA-58813	VDA	-	3:39 1	-	-	-	-	-	-	-	-	3:39 1	720	99.91 3:39
Bryden FRC (RTT)/ Pasadena MSC	CDA-58413	VDA	-	-	-	-	-	-	-	-	-	:05 1	:05 1	719	99.99 :05
	CNAV-8041-R	VOC	-	-	-	-	-	-	-	-	-	:05 1	:05 1	210	99.96 :05
	CADD-8000-R	MOD	-	-	-	-	-	-	-	-	-	:05 1	:05 1	720	99.99 :05
Goldstone Creek via SATCOM (Greenbelt)	-8040-R	MOD	-	-	-	-	-	-	-	-	-	:05 1	:05 1	210	99.96 :05
	9FDA-188	VDA	-	-	-	-	-	-	-	-	-	:05 1	:05 1	719	99.99 :05
	-189	VDA	-	-	:23 1	-	-	-	-	-	-	:05 1	:28 2	720	99.94 :14
Goldstone	-238	VDA	-	-	:22 1	-	-	-	-	-	-	:05 1	:27 2	719	99.94 :14
	9CD-12	MOD	-	-	-	-	-	-	-	-	-	:05 1	:05 1	720	99.99 :05
	CDA-58582	VDA	2:10 1	1:15 1	-	-	-	-	-	-	-	-	3:25 2	720	99.53 1:43
Goldstone/Pasadena MSC	GT-58869	TTY	1:21 1	-	-	-	-	-	-	-	-	-	1:21 1	720	99.81 1:21
	CDA-58270	VDA	-	3:38 2	-	-	-	-	-	-	-	-	3:38 2	720	99.50 1:49

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATION STATION	CIRCUIT NUMBER	MODE OF SVC	TROUBLE CATEGORIES, LOST TIME AND EVENTS										SCHED OP HOURS	AVAIL- ABILITY/ HOURS
			A	B	C	D	E	F	G	H	N	P	TOTAL OUTAGE	
Goldstone/Pasadena MISC (Cont'd)	GDA-58271	VIA	-	-	3:57 1	-	-	-	-	-	-	-	3:57 1	99.45 1:57
	ACT-339	TTY	-	-	15:55 1	-	-	-	-	-	-	-	15:55 1	97.79 15:55
	NAR-8213-T	WID	8:48 1	-	-	-	-	-	-	-	-	-	8:48 1	97.35 8:48
Greenbelt (GSFC) & Houston (JSC)/ White Sands (WST)	GDA-58470	VIA	-	-	-	-	-	-	-	-	-	1:15 1	1:15 1	99.81 1:15
	GDA-59004	VIA	-	-	-	-	-	-	-	-	-	1:15 1	1:15 1	99.81 1:15
	GD-58539	WIS	-	-	-	-	-	-	-	-	1:52 1	-	1:52 1	99.74 1:52
Gann via San Francisco (H3/Transpac 1 Cable)	-58923	TTY	-	-	-	-	-	-	-	-	1:35 1	-	1:35 1	99.78 1:35
	-58924	TTY	-	-	-	-	-	-	-	-	1:35 1	-	1:35 1	99.78 1:35
	-59112	TTY	-	3:47 2	-	-	-	-	-	-	1:35 1	-	3:47 2	99.47 1:35
Houston (JSC)	GP-58597	VOC	-	-	-	-	2:12 1	-	-	-	-	-	2:12 1	99.69 2:12
	M-66001	VOC	-	2:45 1	-	-	-	-	-	-	-	-	2:45 1	99.62 2:45
	-66002	VOC	-	13:01 2	-	-	-	-	-	-	-	-	13:01 2	98.19 6:10
Houston (JSC) via Satcom	-66003	VOC	-	41:48 3	-	-	-	-	-	-	-	-	41:48 3	96.19 13:56
	CAVH-8049	VIA	-	-	-	-	3:10 1	-	-	-	-	-	3:10 1	99.98 3:10

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATION STATION	CIRCUIT NUMBER	TROUBLE OR SYMPTOM	TROUBLE CATEGORIES LOST TIME AND EVENTS										TOTAL OUTAGE HOURS	AVAIL- ABILITY/ PERCENT
			A	R	C	D	E	F	G	H	N	P		
Houston (ISC) via SATCOM (Cont.)	GAU-8055	VDA	1:20 1	-	-	-	-	-	-	-	-	-	1:20 1	99.95 1:20
	GAU-8056	WDC	-	1:11 1	-	-	-	-	-	-	-	-	1:11 1	99.98 1:11
	-8059	WDC	-	2:17 1	-	-	-	-	-	-	-	-	2:17 1	99.99 2:17
	-8195	WDC	-	:09 1	-	-	-	-	-	-	-	-	:09 1	99.98 :09
	-8196	WDC	-	1:17 2	-	-	-	-	-	-	-	-	1:17 2	99.97 1:17
	-8197	WDC	-	:09 1	-	-	-	-	-	-	-	-	:09 1	99.98 :09
	-8198	WDC	-	:09 1	-	-	-	-	-	-	-	-	:09 1	99.98 :09
	-8199	WDC	-	:09 1	-	-	-	-	-	-	-	-	:09 1	99.98 :09
	-8200	WDC	-	:09 1	-	-	-	-	-	-	-	-	:09 1	99.98 :09
	GP-59125	WDC	-	3:33 2	-	-	-	-	-	-	-	-	3:33 2	99.51 1:47
Houston (ISC) via W STAR	GP-59125	WDC	-	3:33 2	-	-	-	-	-	-	-	-	3:33 2	99.51 1:47
	GP-59125	WDC	-	-	3:28 1	-	-	-	-	-	-	-	3:28 1	99.52 3:28
	GP-59125	WDC	-	-	1:19 1	-	-	-	-	-	-	-	1:19 1	99.96 1:19
	GP-59125	WDC	-	5:20 1	-	-	-	-	-	-	-	-	5:20 1	99.26 5:20
Houston (ISC) via W STAR	GP-59125	WDC	-	-	3:32 1	-	-	-	-	-	-	-	3:32 1	99.51 3:32
	GP-59125	WDC	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

LOCATION	CIRCUIT NUMBER	PROB. OF SWC	TROUBLE CATEGORIES, LOST TIME AND COUNTS										TOTAL OUTAGE	SCHED. OP. HOURS	AVAIL. PERCENT
			A	B	C	D	E	F	G	H	I	J			
London via Bombay-Sunder Bh. (COMSTAR)	GDA-58623	VIA	-	4:29 1	-	-	-	-	-	-	-	-	1:29 1	720	99.57 1:19
	GDA-58553	DOS	-	7:09 2	4:41 1	-	-	-	-	-	-	-	12:00 3	720	98.33 3:00
	GP-58267	VIC	-	-	4:6 1	-	-	-	-	-	-	-	4:6 1	720	99.89 1:6
	-59268	VIC	-	-	4:7 1	-	-	34 1	-	-	-	-	1:21 2	720	99.81 1:6
London Switching Center	GDA-58689	VIA	-	11:26 2	-	-	-	-	-	-	-	-	11:26 2	720	98.61 3:43
	DPLR-2	VIA	-	1:18 1	3:35 2	-	-	-	-	-	-	-	4:53 3	720	99.88 1:18
London Switching Center/ Madrid via Algorta	DPLR-3	VIA	10 1	3:33 7	5:6 3	-	-	-	-	-	-	-	4:39 11	720	99.35 1:25
	DPLR-4	VIA	-	3:48 2	2:4 1	-	-	-	-	-	-	-	4:12 3	720	99.62 1:26
London Switching Center/ Madrid via Bilbao	XPLR-1	VIA	10 1	7:33 6	3:2 2	-	-	-	-	-	-	-	8:15 9	720	98.85 1:55
	GDA-59048	DOS	-	2:6 1	3:2 2	-	-	-	-	-	-	-	5:8 3	720	99.87 1:19
Madrid via Elam (US 19 A P-1)	-59050	VIA	-	2:4 2	3:2 2	-	-	-	-	-	-	-	5:6 4	720	99.87 1:16
	-59051	VIA	-	-	3:2 2	-	-	-	-	-	-	-	3:2 2	720	99.91 1:16
Madrid via Elam (COMSTAR & US V P-3)	E-1044	MOD	15 1	2:47 5	1:28 4	-	-	-	4:30 2	-	-	-	9:00 12	720	98.75 1:65
	WU-108-R	MOD	11 1	4:0 3	4:5 3	-	-	-	3:47 1	-	-	-	5:23 8	720	99.25 1:40

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TABLE 1. CATEGORIES, LOSS, FOR VAP COVERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
CIRCUIT NUMBER	PROB-100 SVE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	IJ	JK	KL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATION STATION	CIRCUIT NUMBER	PRIM OF SVC	TROUBLE CATEGORIES, LOST TIME AND VALUES										TOTAL OUTAGE HOURS	SCHED OP HOURS	AVAIL- ABILITY PERCENT
			A	B	C	D	E	F	G	H	I	J			
WALLACE FIELD (ARC)/ Pasadena WSC (Cont'd)	GDW-50269	DMS	-	-	17:35 1	-	-	-	-	-	-	-	17:35 1	720	97.56 17:35
	-50179	DMS	1:10 2	-	-	-	-	-	-	-	-	-	3:30 2	720	99.54 1:15
	-50612	DMS	-	11:30 1	-	-	-	-	-	-	-	-	11:30 1	720	98.30 11:30
	GP-50226	WDC	-	-	2:52 1	-	-	-	-	-	-	-	2:52 1	720	99.00 2:52
	WST-3011	TTY	-	3:26 2	-	-	-	-	-	-	-	-	3:26 2	720	99.52 3:26
Palo Alto (Unkilled)/ GSPC (Relay 71) Pasadena WSC	GD-50046	DMS	-	-	-	-	-	-	-	22 1	-	-	22 1	720	99.95 22
	GD-50120	DMS	-	-	3:11 1	-	-	-	-	-	-	-	3:11 1	720	99.85 3:11
	GD-50235	VDA	-	-	-	-	1:16 1	-	-	-	-	-	1:16 1	720	99.96 1:16
	-50490	DMS	1:14 1	-	-	-	-	-	-	-	-	-	1:14 1	720	99.97 1:14
	-5532	DMS	-	1:49 1	-	-	-	-	-	3:52 1	-	-	4:41 2	720	99.17 2:16
	-50620	VDA	-	1:14 1	-	-	-	-	-	-	-	-	1:14 1	720	99.79 1:14
	-50623	DMS	-	1:32 2	-	-	-	-	-	1:16 1	-	-	2:48 3	720	99.61 1:56
	-50624	DMS	1:07 1	1:14 1	-	-	-	-	-	1:16 1	-	-	1:37 3	720	99.78 1:12
	-50692	WVA	1:20 1	23:47 2	9:50 1	-	-	-	-	-	-	-	33:57 4	720	95.28 8:29

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SWC	TROUBLE CATEGORIES LOST TIME AND HOURS										TOTAL LOST HOURS	SCHED OP HOURS	AVAIL- ABILITY PERCENT
			A	B	C	D	E	F	G	H	I	J			
Pasadena MISC (Cont'd)	CDA-50696	VDA	-	1:15	-	-	-	-	-	-	-	-	1:15	720	99.79
	GP-50401	WDC	-	1:14	-	-	-	-	-	-	-	-	1:14	720	99.81
	-50676	WDC	-	1:17	1:11	-	-	-	-	-	-	-	2:28	720	99.85
Pasadena MISC v/a SATCOM	GM00-5172	WHD	4:11	-	3:42	-	-	-	-	-	-	-	7:53	719	98.90
	GP-50281	DOS	1:20	2:44	-	-	-	-	-	-	-	-	3:51	720	99.57
	GP-50211	WDC	-	-	-	-	-	-	-	-	-	-	1:51	720	99.88
San Diego v/a F-4 (US IV A P-1)	CDA-50454	VDA	-	1:02	-	-	-	-	-	-	-	-	1:02	720	99.86
	-50871	VDA	-	-	-	-	-	-	-	-	-	-	1:32	720	99.91
	L-1129	WHD	-	-	1:50	-	-	-	1:50	-	-	-	3:40	720	99.45
San Diego v/a F-4 (US IV A P-1)	W01-190-B	WHD	1:27	-	1:13	-	-	-	1:45	-	-	-	3:25	720	99.39
	-191-T	WHD	-	-	1:13	-	-	-	1:45	-	-	-	3:28	720	99.45
	GP-50420	DOS	-	16:20	1:30	-	-	-	-	-	-	-	17:50	720	97.86
Sioux Falls (EMOS)/C-AC (MILG 23)	GP-50321	WDC	-	-	-	-	-	-	-	-	-	-	3:03	720	99.58
	CDA-6299	VDA	-	-	1:32	-	-	-	-	-	-	-	1:32	720	99.91
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1:32

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IX
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVT	TROUBLE CATEGORIES, LOST TIME AND HOURS										SCHED OP HOURS	AVAIL- ABILITY/ PCTR
			A	B	C	D	E	F	G	H	I	J		
Sunnyvale (AFSCF) via SATCOM	GM01-80/1	MOD	-	1:12	-	-	-	-	-	-	-	-	720	99.81 :16
	GP-59199	VOC	-	-	1:00	-	-	-	-	-	-	-	720	99.86 1:00
	AGT-354	TTY	-	2:35	-	-	-	-	-	-	-	-	720	99.65 1:35
	TGTR-1	TTY	-	2:00	3:08	-	-	-	-	-	-	-	720	99.70 1:08
Vandenberg AFB (MSMC)/ Pabodena MSC	XPRT-101	VIA	-	1:18	1:04	-	-	-	-	-	-	-	720	99.81 :21
	-102	VIA	-	1:18	3:32	-	-	-	-	-	-	-	720	99.88 :17
	GDA-58722	VIA	1:45	1:45	-	-	-	-	-	-	-	-	720	99.79 :45
	GP-58248	VOC	1:47	-	-	-	-	-	-	-	-	-	720	99.89 :47
Villafraanca (VILSPA)/ Madrid	-58790	VOC	1:47	-	-	-	-	-	-	-	-	-	720	99.89 :47
	DRRV-1	VIA	-	1:18	3:32	-	-	-	-	-	-	-	720	99.88 :17
	-2	VIA	-	1:18	3:32	-	-	-	-	-	-	-	720	99.88 :17
	-3	VIA	-	-	3:24	-	-	-	-	-	-	-	112	99.87 :24
Mallopo Island	-4	VIA	-	-	3:24	-	-	-	-	-	-	-	312	99.87 :24
	GDA-58401	VIA	-	2:21	-	-	-	-	-	-	-	-	720	99.95 :21

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE II

CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS

AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

ORGANIZATION LOCATION	CIRCUIT NUMBER	TROUBLE CATEGORY	TROUBLE CATEGORIES, LOSS OF TIME, AND MEAN TIME TO RESTORE										TOTAL DOWN HOURS	AVAIL- ABILITY PERCENT
			A	B	C	D	E	F	G	H	I	J		
McClips Field (Cont'd)	CDA-58527	VDA	-	1:24	-	-	-	-	-	-	-	-	720	99.95
		VDA	-	1	-	-	-	-	-	-	-	-	1	99.99
Washington D.C. (FSC)	J440-7248	DAT	-	-	-	-	-	-	-	-	-	-	720	97.41
		DAT	-	-	-	-	-	-	-	-	-	-	1	99.97
Washington D.C. (NASA Headquarters)	J441-25296-T	VDC	-	104:21	-	-	-	-	-	-	-	-	720	85.51
		VDC	-	1	-	-	-	-	-	-	-	-	1	100.00
Mass Eng. (GSA/C)/Madrld	TDR-1	TTY	-	4:16	-	-	-	-	-	-	-	-	720	99.19
		TTY	-	4	-	-	-	-	-	-	-	-	5	99.91
White Sands (THRSS/MGT)	CDA-58578	VDA	-	-	-	-	-	-	-	-	-	-	720	99.56
		VDA	-	-	-	-	-	-	-	-	-	-	1	99.99
-58890	-58890	VDA	-	-	-	-	-	-	-	-	-	-	720	99.54
		VDA	-	-	-	-	-	-	-	-	-	-	2	99.94
-58891	-58891	VDA	-	3:38	-	-	-	-	-	-	-	-	720	99.15
		VDA	-	1	-	-	-	-	-	-	-	-	4	99.97
GP-58487	GP-58487	VDC	1:42	1:14	-	-	-	-	-	-	-	-	720	98.36
		VDC	1	2	-	-	-	-	-	-	-	-	6	99.98
-58618	-58618	VDC	-	1:16	-	-	-	-	-	-	-	-	720	99.49
		VDC	-	1	-	-	-	-	-	-	-	-	3	99.91
-58619	-58619	VDC	-	-	-	-	-	-	-	-	-	-	720	99.51
		VDC	-	-	-	-	-	-	-	-	-	-	2	99.97
-58887	-58887	VDC	-	3:25	-	-	-	-	-	-	-	-	720	98.89
		VDC	-	3	-	-	-	-	-	-	-	-	7	99.99
-58888	-58888	VDC	-	4:02	-	-	-	-	-	-	-	-	720	98.80
		VDC	-	3	-	-	-	-	-	-	-	-	7	99.94
-58889	-58889	VDC	-	5:19	-	-	-	-	-	-	-	-	720	98.63
		VDC	-	3	-	-	-	-	-	-	-	-	7	99.97
White Sands (THRSS/MGT) VIA SATURN	CDA-58194	VDC	-	1:14	-	-	-	-	-	-	-	-	720	99.97
		VDC	-	1	-	-	-	-	-	-	-	-	1	99.99

TABLE II
CIRCUITS WITH LOST TIME BY TROUBLE CATEGORY WITH SCHEDULED OPERATING HOURS
AVAILABILITY PERCENT AND MEAN TIME TO RESTORE (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	TRBL OP SPEC	TROUBLE CATEGORIES (LOS) TIME AND COUNTS										TOTAL OUTAGE	SCHED OP HOURS	AVAIL- ABILITY/ PER
			A	B	C	D	E	F	G	H	I	J			
White Sands (MCT) & Houston (ESC) Broadcast	GAX-8211-T	WHD	8:58 1	-	-	-	-	-	-	-	-	-	8:58 1	112	97.45
White Sands (TIMSS/MCT)/ Houston (ESC) via SATCOM	GMDD-8015	WHD	-	143	-	-	-	-	-	-	-	-	143	713	99.90
White Sands (MSTW)/ Houston (ESC)	GP-59656	VOC	-	140	-	-	-	-	-	-	-	-	140	720	99.91
	-59664	VOC	-	-	120 1	-	-	-	-	-	-	-	120 1	720	99.95
Yucca Valley (MOLAS)/ Candetta	MCT-601	TTY	-	147 1	139 1	-	-	-	-	-	-	-	1:26 2	720	99.80
	MCT-601	VDA	-	147 1	-	-	-	-	-	-	-	-	147 1	720	99.89
	-602	VDA	-	147 1	-	-	-	-	-	-	-	-	147 1	720	99.89

ORIGINAL PAGE IS
OF POOR QUALITY

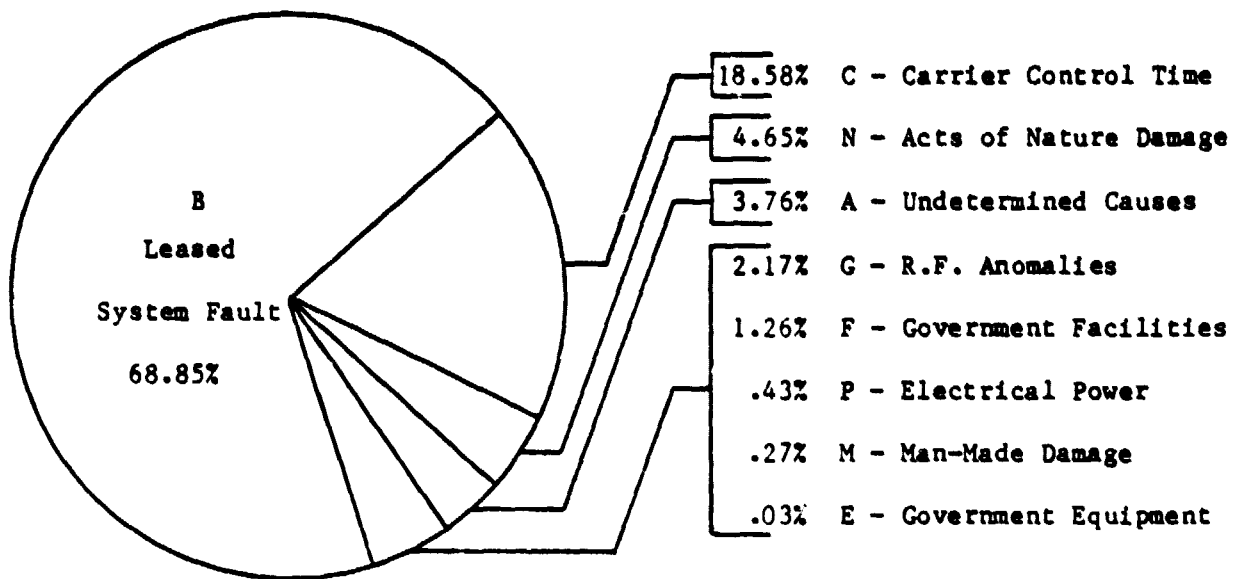


Figure 3A. Percentage of Lost Time by Trouble Category
for the Current Month

Figure 3A: DATA DISCUSSION

Figure 3A above shows that Commercial Carrier Systems Faults (B) accounted for 68.85% of all network lost time for April followed by 18.58% for Carrier Control Time (C). The significant increase from last month was category B, up 52%; and the greatest decrease being Government Equipment Fault (E), from 5.17% to 0.03%. Acts of Nature Damage (N) is 4.65% and in large is due to the mud slide 15 April at Pemsboro, West Virginia.

Table IIIA: SUMMARY

Table IIIA is presented showing the outage hours for all categories in April and their respective totals. There were 1113:47 outage hours and a calculated 99.75% availability. The Systems Fault (B) category for all modes accrued 760:49 hours followed by Carrier Control Time (C) of 206:57 hours. The network video circuits exhibited a low availability for April (97.9%) due to noise on the F2 satellite, 27 April.

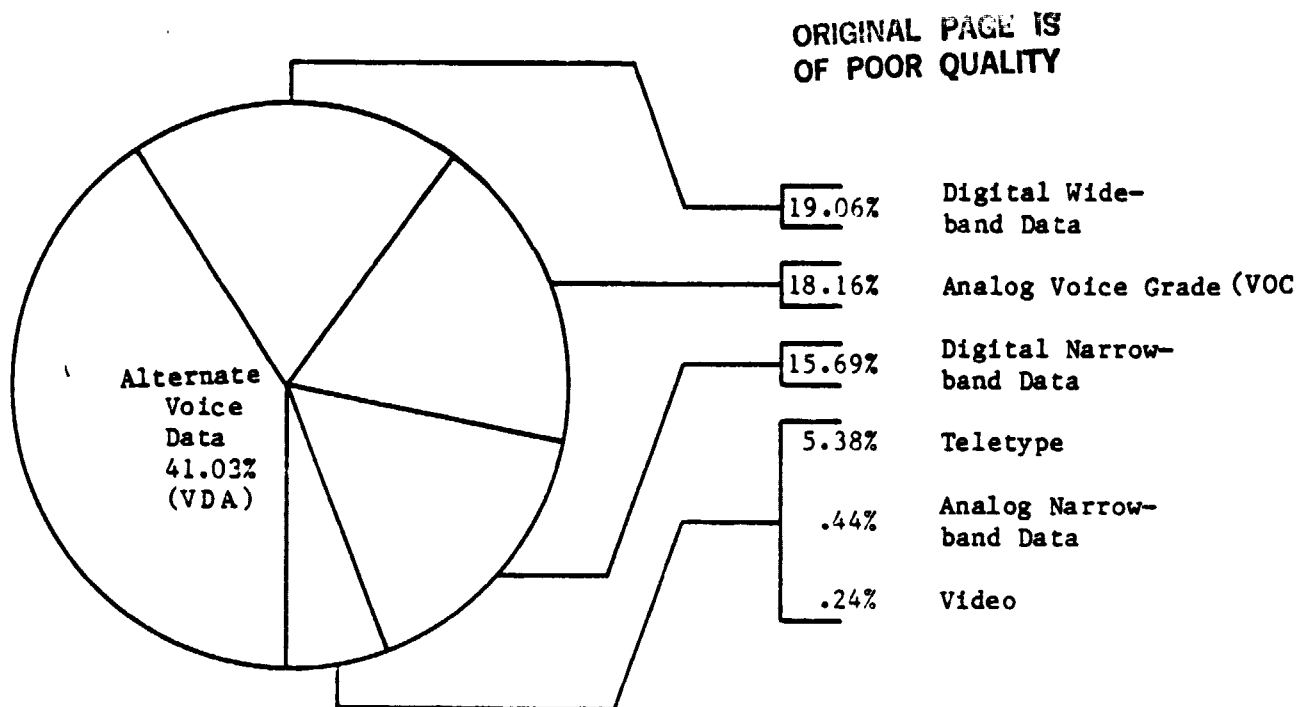


Figure 3B. Percentage of CMA's By Mode of Service for the Current Month

Figure 3B: DATA DISCUSSION

Figure 3B above shows the breakdown percentages by mode of service for April. The Alternate Voice Data mode contributed 41.03% of all interruptions documented followed by 19.06% on Digital Wideband Data circuits. The number of CMA's for digital wideband circuits increased substantially from March (4.91%).

Table IIIB: SUMMARY

Table IIIB presents the number of interruptions for each mode of service and is cross referenced to the individual trouble categories. There were 446 CMA's and a mean-restore-time of 2.50 hours on 188 circuits. The mean-restore-time for the video mode is 75.12 hours followed by 10.55 hours on Analog Narrowband Data circuits. The network MTTRes (2.50 hours) is a significant improvement from March (6.48 hours) and is better than the established 24 month baseline of 2.92 hours.

Table III
Circuits With Lost Time By Trouble Category With Scheduled Operating Hours,
Availability Percent and Mean-Time-To-Restore

TABLE 3A													
A	B	C	D	E	F	G	H	I	J	K	L	M	N
A VOICE/DATA	4500	157157	5150	100	0004	100	000	000	000	000	000	000	000
A DASH/DATA	000	000	000	100	000	000	000	000	000	000	000	000	000
ALL DATA	1451	21107	21115	100	100	100	100	100	100	100	100	100	100
A VOICE/DATA	000	000	000	100	000	000	000	000	000	000	000	000	000
A VOICE/DATA	2016	234057	5150	100	2146	100	000	000	000	000	000	000	000
A VOICE/DATA	000	000	000	100	000	000	000	000	000	000	000	000	000
D DASH/DATA	5015	72126	5150	100	100	100	000	000	000	000	000	000	000
D DASH/DATA	2012	10015	1500	100	2027	100	000	000	000	000	000	000	000
VIDEO	000	75007	000	100	000	000	000	000	000	000	000	000	000
NET TOTALS	4153	76009	20157	100	6011	100	2012	5051	000	111047	4000000	000	000
TABLE 3B													
A VOICE/DATA	9	58	57	0	3	0	0	7	11	107	107	107	107
A DASH/DATA	0	0	0	0	0	0	0	0	0	0	0	0	0
ALL DATA	1	15	6	0	0	0	0	0	0	0	0	0	0
A VOICE/DATA	0	0	0	0	0	0	0	0	0	0	0	0	0
A VOICE/DATA	3	40	10	0	2	0	0	14	3	0	0	0	0
A VOICE/DATA	0	0	0	0	0	0	0	0	0	0	0	0	0
D DASH/DATA	0	12	17	0	0	0	1	2	0	0	0	0	0
D DASH/DATA	11	31	23	0	3	0	2	1	0	0	0	0	0
VIDEO	0	1	0	0	0	0	0	0	0	0	0	0	0
NET TOTALS	23	212	110	0	7	0	0	31	22	107	107	107	107

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MONTH												LONG TERM AVG
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	
Albuquerque (FMA)/Houston (JBC)	GP-58638	VCC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
Andrews AFB	74PL-26474	VCC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Ann Arbor (Univ of Michigan)/ CBPC (Bldg 23)	GD-59044	VDS	100.00	100.00	96.77	99.75	100.00	100.00	100.00	100.00	100.00	100.00	99.83	100.00	99.70
Arlington (DCA)	74EL-1561	VCC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Ascension Island via Batam (IS IV A P-1)	GD-58572	VDA	100.00	99.91	98.97	0	0	100.00	100.00	100.00	99.95	100.00	99.65	100.00	99.85
	-58573	VDA	99.70	99.32	99.85	98.44	99.68	99.37	99.83	99.94	99.74	100.00	99.69	99.31	99.57
	-58576	VDA	99.93	99.55	99.54	99.77	99.89	100.00	99.77	100.00	99.83	100.00	99.69	100.00	99.83
Ascension Island via Andover (WESTAR & IS V P-2)	WJ-175	WDD	99.43	99.72	99.20	99.91	99.99	99.65	99.95	99.36	99.82	99.53	99.69	99.19	99.65
	-197-R	WDD	0	99.64	99.71	0	0	99.83	100.00	100.00	100.00	99.88	99.69	99.56	99.81
	-198-R	WDD	0	99.85	99.71	0	0	99.78	99.98	100.00	99.95	99.85	99.69	99.47	99.81
Austin (Univ of Texas)	GP-58950	TTY	100.00	100.00	100.00	100.00	100.00	100.00	96.92	99.43	100.00	0	0	0	99.59
Baltimore (JBL)	74ED-436	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	100.00
Bermuda Island via Andover (IS V P-2)	GD-58550	VDA	99.94	99.84	99.14	99.85	99.98	99.85	99.72	100.00	99.94	99.79	98.71	97.86	99.55
	-58551	VDA	100.00	99.93	99.68	99.98	99.99	99.44	99.72	100.00	99.98	99.41	100.00	99.93	99.84
	-58552	VDA	0	0	0	0	0	0	0	0	0	0	0	98.31	98.31
Bermuda Island via Andover (WESTAR & IS V P-2)	WJ-194	WDD	100.00	99.92	99.60	99.63	100.00	99.99	99.94	100.00	99.86	100.00	99.29	99.76	99.83
	-195-R	WDD	0	99.91	100.00	0	0	99.99	99.97	100.00	99.86	99.02	100.00	100.00	99.86
	-196-R	WDD	0	99.91	99.99	0	0	99.99	99.82	100.00	99.86	99.05	100.00	100.00	99.85

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE	MONTH												LONG TERM	
			MAY 1982	JUN. 1982	JUL. 1982	AUG. 1982	SEP. 1982	OCT. 1982	NOV. 1982	DEC. 1982	JAN. 1983	FEB. 1983	MAR. 1983	APR. 1983	1983	AVG.
Bermuda via Jacksonville	CDN-59183	VDA	100.00	99.53	100.00	98.53	100.00	99.87	99.66	100.00	99.89	99.94	99.94	99.89	99.77	
Subcable	-59184	VDA	100.00	99.53	99.79	100.00	100.00	100.00	99.43	100.00	99.62	100.00	99.68	99.92	99.83	
Bermuda Island via Manahawkin	CDN-58440	VDA	100.00	99.72	100.00	100.00	99.70	99.91	99.53	100.00	100.00	100.00	99.83	99.06	99.81	
Subcable	-58441	VDA	99.56	99.95	100.00	100.00	100.00	99.95	100.00	100.00	100.00	100.00	100.00	100.00	99.96	
Bermuda Island via Mill Village	-59211	VDA	99.76	100.00	100.00	100.00	99.91	99.76	100.00	100.00	99.37	100.00	100.00	99.36	99.85	
Subcable	CDN-58585	VDA	100.00	99.65	100.00	0	0	99.84	100.00	100.00	100.00	99.99	100.00	100.00	99.95	
Bermuda Island/Harritt Island	-58586	VDA	0	98.59	100.00	0	0	100.00	99.80	100.00	98.72	99.62	100.00	100.00	99.64	
via Mill Village Subcable	CDN-58587	VDA	0	99.65	100.00	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.96	
Bermuda/Cape NY via Manahawkin	GP-58380	VOC	0	0	0	0	0	100.00	100.00	100.00	100.00	0	100.00	100.00	100.00	
Subcable	-58588	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00	
Bethesda (Mr. Boggs)	74PL-26479	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	93.56	99.46	
	-26480	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Birmingham (Aston Univ)/London	LA-49001	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Botsawana via TMT-6 Cable & JCS	CDN-58679	VDA	0	99.81	100.00	0	0	99.38	99.89	98.81	99.95	100.00	100.00	99.91	99.75	
	-58680	VDA	0	100.00	100.00	0	0	100.00	100.00	99.81	100.00	100.00	100.00	100.00	99.98	
Boulder (Univ of Colorado) & El Segundo (SLC)/Palo Alto (LRL)	GP-58681	TTY	0	98.10	99.41	0	0	98.15	99.59	94.23	93.35	99.94	99.91	100.00	98.07	
	CD-59144	DTR	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	100.00	

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE	MAY 1982	JUN. 1982	JUL. 1982	AUG. 1982	SEP. 1982	OCT. 1982	NOV. 1982	DEC. 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVERAGE
Boulder (Univ of Colo-LASP)	GD-58992	DSB	99.91	98.93	99.37	99.89	99.76	99.97	98.90	99.91	100.00	99.65	99.38	97.83	99.46
	-58993	DSB	99.95	98.93	99.19	99.96	99.70	99.97	99.06	99.91	100.00	99.68	99.58	97.85	99.48
	-58994	DSB	100.00	99.60	99.83	99.81	100.00	99.97	100.00	100.00	100.00	99.98	99.84	100.00	99.92
Boulder (Univ of Colo-LASP)/	GP-58991	TTY	99.83	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
Pasadena WSC	GP-58368	VOC	100.00	0	0	0	0	0	0	0	0	0	0	0	100.00
Brackwell (Meteo Ctr)/London	LB-945	VOC	100.00	100.00	100.00	98.49	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.87
Cambridge (C.S. Draper Lab)	GP-59129	VOC	100.00	99.95	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cambridge (MIT/GSFC (Bldg 22)	GD-58422	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cambridge (Harvard Univ & SNO) &	GD-58645	DAT	100.00	100.00	100.00	100.00	100.00	99.84	100.00	100.00	99.24	100.00	0	0	99.91
Cambridge (Hanscom Field)															
Cambridge (Intermetrics Corp)/	GD-58659	DAT	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00
Houston (JSC)															
Cambridge (SNO)	NSP-3174-F	TTY	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-3308	TTY	100.00	100.00	99.57	99.56	100.00	100.00	0	0	0	0	0	0	99.86
	GD-58468	TTY	0	0	0	0	0	100.00	99.97	100.00	100.00	98.44	100.00	100.00	99.77
Carleira via Jansburg	GP-58504	VDA	99.44	99.09	99.43	98.67	99.22	98.35	97.88	99.56	98.05	99.48	99.95	99.97	99.09
(IS IV A P-8)	-58506	VDA	0	99.46	99.84	0	0	99.78	98.96	98.13	96.69	99.48	99.94	99.87	99.13
	-58521	VDA	99.53	98.81	98.20	96.97	97.01	97.58	97.49	99.53	99.12	99.17	99.64	99.97	98.59
	GP-58629	VOC	0	0	0	0	0	96.34	99.82	0	0	0	0	0	98.08
	-58630	VOC	0	0	0	0	0	96.34	99.15	0	0	0	0	0	97.75

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE	MOIS												LONG TERM AVERAGE	
			APR 1962	MAY 1962	JUN. 1962	JUL. 1962	AUG. 1962	SEP. 1962	OCT. 1962	NOV. 1962	DEC. 1962	JAN. 1963	FEB. 1963	MAR. 1963	APR. 1963	LONG TERM AVERAGE
Canberra via Jamboung	GP-59375	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	-59376	VDA	0	99.80	100.00	0	0	0	0	0	0	0	0	0	0	99.90
	-59468	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	99.90	99.95
	-59469	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	99.69	99.85
	SPND-101001	WID	0	99.80	99.92	0	0	0	0	0	0	0	0	0	0	99.86
Canberra via Pasmalu (KUNSTAR & IS IV A P-8)	QA-59200	WID	98.92	99.08	99.42	99.90	99.64	99.26	99.09	99.66	100.00	99.87	99.81	99.94	99.94	99.55
	-58346	WID	99.56	100.00	99.12	99.53	97.36	98.76	98.83	100.00	100.00	100.00	99.81	99.98	99.98	99.41
	-58347-R	WID	0	97.38	99.14	0	0	97.82	98.70	99.50	99.68	99.91	99.93	99.93	99.79	99.14
	-58348-R	WID	99.51	99.84	98.72	99.07	95.42	97.54	97.42	98.83	99.80	99.61	99.93	99.96	99.96	98.80
	QDA-58531	VDA	99.01	99.07	99.62	99.33	96.48	94.07	98.57	99.44	100.00	99.70	99.60	99.93	99.93	98.74
Canberra via Vancouver (KUNPAC Cable)	QDA-58548	VDA	98.79	97.45	98.65	92.32	98.79	98.45	96.77	99.70	99.38	100.00	99.70	99.88	99.88	98.32
	QDA-58419	VDA	99.93	99.51	97.59	98.12	96.44	95.91	96.58	97.76	99.80	99.89	99.31	99.61	99.61	98.37
	-58474	VDA	96.39	99.39	99.68	99.82	98.87	97.84	96.20	97.64	99.79	99.11	99.83	98.60	98.60	98.60
	NCT-240	VOC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NCT-260	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	97.64	100.00	100.00	99.80
Canberra via San Francisco (P2 & ODWPC Cables)	MCV-200	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	MCV-251	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	MCV-260	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	97.64	100.00	100.00	99.80
	MCV-200	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	MCV-251	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	NOTE	MAY 1962	JUN. 1962	JUL. 1962	AUG. 1962	SEP. 1962	OCT. 1962	NOV. 1962	DEC. 1962	JAN. 1963	FEB. 1963	MAR. 1963	APR. 1963	LONG TERM AVCS
Canberra DSS-43 (Fidhlabilla)/ Canberra	MCV-201	VDA	100.00	100.00	100.00	84.07	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	98.67
	-202	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-203	VDA	100.00	100.00	100.00	97.60	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.80
	-204	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.32	100.00	95.96	99.61
	-205	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-206	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-207	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Canberra DBOC & STUN/Canberra	MCV-102	WED	100.00	100.00	100.00	100.00	100.00	100.00	99.91	100.00	100.00	100.00	99.90	100.00	99.98
	MCV-231	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
	-232	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
	-233	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
Canberra NSP/Canberra	-234	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
	MCV-258	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	MCV-252	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	MCV-211	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
Canberra STUN (Ororocal Valley)/ Canberra	-213	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
	-215	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

THUNDERBOLTING STATION	CIRCUIT NUMBER	MOIS	LONG											
			MAY 1982	JUN. 1982	JUL. 1982	AUG. 1982	SEP. 1982	OCT. 1982	NOV. 1982	DEC. 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983
Caribbea STN (Ariforal Valley)/ Caribbea (Cont.)	WED-101	WED	0	0	0	0	0	0	0	0	0	0	0	0
	-103	WED	0	0	0	0	0	0	0	0	0	0	0	0
	-3001	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3002	WED	0	0	0	0	0	0	0	0	0	0	0	0
Caribbea STN (Orizabal Valley)/ Caribbea (BSC-4)	-3003	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	WED-6001	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-6002	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	CD-50524	TTY	100.00	100.00	99.94	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cape Canaveral AFS (BSC3)/ Houston (BSC)	-50529	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	CDM-50731	VDA	100.00	89.90	100.00	100.00	100.00	96.12	86.26	99.95	90.38	47.32	100.00	99.96
	-50732	VDA	99.71	100.00	100.00	100.00	100.00	90.79	90.95	100.00	100.00	100.00	99.47	99.67
	CDM-50731	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cape Canaveral AFS (Bunguar MI)/XI Cape Canaveral AFS (Bunguar MO)/XI Cape Canaveral XI	CD-50455	TTY	99.90	100.00	100.00	100.00	99.94	100.00	100.00	100.00	99.95	99.66	99.95	99.96
	CDM-50283	VDA	100.00	100.00	99.59	100.00	99.94	100.00	100.00	100.00	100.00	99.91	100.00	99.99
	-50408	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.97
	-50409	VDA	99.96	100.00	100.00	100.00	99.75	100.00	100.00	100.00	100.00	100.00	99.93	100.00
	-50411	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.96	100.00	100.00	99.97

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

PLANTING STATION	CIRCUIT NUMBER	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	1983											
														MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
Cape Canaveral AF (cont.)	Q2A-58446	100.00	100.00	100.00	100.00	99.97	100.00	99.95	100.00	100.00	100.00	100.00	99.97	99.99											
	-58599	99.96	100.00	100.00	100.00	99.42	100.00	100.00	100.00	100.00	99.82	100.00	100.00	99.93											
	-58600	100.00	99.98	100.00	100.00	99.75	100.00	100.00	100.00	100.00	99.99	100.00	100.00	99.98											
	-58601	100.00	100.00	100.00	100.00	99.95	100.00	100.00	100.00	100.00	100.00	100.00	99.91	99.99											
	-58602	100.00	100.00	100.00	100.00	99.75	100.00	100.00	100.00	100.00	99.90	100.00	100.00	99.97											
	-58614	99.94	100.00	100.00	100.00	99.97	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99											
	-58643	0	0	0	0	0	0	0	0	0	0	0	99.29	99.97											
	-58644	0	0	0	0	0	0	0	0	0	0	0	100.00	99.97											
	-58671	99.94	100.00	100.00	100.00	99.72	100.00	100.00	100.00	100.00	100.00	99.94	100.00	100.00											
	-58674	100.00	100.00	100.00	94.94	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.91											
	-58734	100.00	99.89	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.82	100.00	99.97	99.97											
	-59330	100.00	100.00	100.00	100.00	99.72	100.00	99.91	100.00	100.00	100.00	100.00	96.52	100.00											
CP-58410	-59331	100.00	99.94	100.00	100.00	99.86	100.00	99.75	99.95	100.00	100.00	90.85	100.00	99.86											
	-59332	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89	100.00	100.00	99.99											
	-58412	99.97	100.00	100.00	99.93	99.75	100.00	100.00	100.00	100.00	99.97	100.00	100.00	99.97											
	-58415	100.00	99.34	100.00	99.64	100.00	97.03	100.00	100.00	99.96	99.99	100.00	100.00	100.00											
	-58424	99.89	99.89	100.00	99.02	99.75	100.00	100.00	100.00	99.94	100.00	99.77	100.00	99.86											
-58534	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00											

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATION: STATION	CIRCUIT NUMBER	NOTE OF SAC	NOTE												LONG TERM AVERAGE	
			MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	MAY 1963	
Cape Canaveral RT (Cont.)	QF-58546	VOC	0	0	0	0	0	0	0	0	0	100.00	100.00	99.26	100.00	99.00
	-58547	VOC	0	0	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00
	-58586	VOC	100.00	99.93	100.00	100.00	100.00	100.00	100.00	99.99	100.00	100.00	100.00	100.00	99.97	99.99
	-58773	VOC	0	0	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00
	-58774	VOC	0	0	0	0	0	0	0	0	0	100.00	99.84	100.00	99.95	99.95
	-58775	VOC	0	0	0	0	0	0	0	0	0	100.00	99.73	100.00	99.91	99.91
Cape Canaveral RT/Houston (JSC)	QF-59198	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	QF-58239	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58769	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59449	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00	100.00
	-59450	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00	100.00
	WJL-106	VOC	0	0	0	98.08	93.39	99.38	100.00	100.00	100.00	96.83	95.91	98.25	97.55	97.55
Chilton (IWS OC)	LC-157	VOC	99.48	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	96.50	99.91	100.00	100.00	99.66
	-324	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.82	100.00	100.00	99.92
	-325	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.69	98.16	100.00	99.63	99.63
	-68152	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	95.32	100.00	99.61	99.61
	Q2A-58738	VOC	0	0	0	0	0	0	0	0	0	100.00	100.00	0	0	100.00
	-58739	VOC	0	0	0	0	0	0	0	0	0	100.00	100.00	0	0	100.00
Colorado Springs (MCBND)	WST-3001	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE 19
OF POOR QUALITY

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE	MONTH												TOTAL		
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	TS-94	AVERAGE	
Colorado Springs (MOUNTAIN)	CP-59182	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59315-T	VOC	100.00	99.91	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
	CP-58416	VOC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	74PD-8925	TTY	100.00	99.54	98.13	100.00	100.00	100.00	100.00	98.15	100.00	100.00	100.00	100.00	100.00	100.00	99.45
	74PL-25261	VOC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dakar via Etam (IS IV A P-1)	-25262	VOC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CDR-58682	VDA	99.90	99.34	100.00	0	0	100.00	99.59	99.45	99.45	98.02	100.00	99.28	99.99	99.56	99.56
	-58683	VDA	99.81	99.96	100.00	97.34	0	98.83	99.90	99.45	99.45	98.19	100.00	99.98	99.99	99.40	99.40
	-58940	VDA	90.67	99.39	95.40	98.36	99.28	99.49	99.50	99.48	99.48	99.77	99.47	98.45	99.72	98.25	98.25
	CP-58684	TTY	100.00	0	0	0	0	0	0	0	0	0	0	0	0	0	100.00
Dakar via Etam (WESTER & IS IV A P-1)	WJ-182	WJD	94.17	99.52	93.56	0	0	100.00	99.49	95.44	95.44	95.84	98.92	99.70	92.48	96.91	96.91
	-183-R	WJD	95.04	99.85	99.95	0	0	99.88	100.00	0	99.91	96.95	99.86	92.48	92.48	99.21	99.21
	-184-R	WJD	98.48	99.53	100.00	0	0	100.00	100.00	0	100.00	100.00	96.54	98.75	92.48	98.42	98.42
	CP-58965	VOC	0	90.53	0	0	0	0	0	0	0	0	0	0	0	0	90.53
Dakar Airport via Etam (IS IV A P-1)	-58966	VOC	0	100.00	0	0	0	0	0	0	0	0	0	0	0	0	100.00
	-59447	VOC	0	0	0	0	0	0	100.00	0	0	0	0	0	0	0	100.00
	-59448	VOC	0	0	0	0	0	0	100.00	0	0	0	0	0	0	0	100.00
	-59470	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	99.96	99.96	99.96
	-59471	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	99.96	99.96	99.96

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVERAGE
Dallas & San Antonio (Univ of Texas)/USRC (Bldg 23)	GD-59043	DES	99.09	96.04	99.80	99.91	100.00	100.00	100.00	98.87	96.45	99.73	100.00	100.00	99.16
Darmstadt (ESRO)/Asahi	TCR-1	TTY	100.00	98.27	99.99	99.91	100.00	99.87	100.00	100.00	99.73	99.69	99.91	96.39	99.73
Dunwoy (RI)/Houston (JSC)	GD-58130	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	100.00
	-58131	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	100.00
	-58451	DAT	0	0	0	0	0	0	0	0	0	0	0	0	99.16
	GP-58132	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	100.00
	-58560	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.32	99.94
	-58561	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58562	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58563	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Dunwoy (RI)/Kennedy Space Center	TACA-800034	WED	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	MIR-800027	WED	100.00	100.00	99.69	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.97
Dryden-Goldstone-Houston	OMV-8092	VID	100.00	100.00	100.00	100.00	83.03	99.99	100.00	100.00	100.00	100.00	100.00	89.57	97.72
Huntsville-Kawai-Kennedy	GD-58873	TTY	100.00	99.90	100.00	100.00	100.00	97.48	100.00	100.00	100.00	100.00	100.00	100.00	99.78
	GD-58442	VDA	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-58710	VDA	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-58711	VDA	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-58712	VDA	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE 18
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE OF SVC	MOSE										LONG		
			MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	MAY 1963
Dryden FSC (DRICT)/Hamilton (HSC) (Cont.)	QZ-50076	VIA	0	0	0	0	0	100.00	100.00	100.00	100.00	99.75	100.00	100.00	99.97
	-50077	VIA	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-50079	VIA	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	99.85	100.00	99.90
	-50080	VIA	0	0	0	0	0	100.00	99.81	100.00	100.00	100.00	100.00	100.00	99.90
	QZ-50084	VCC	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	99.85	100.00	99.90
	-50724	VCC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-50726	VCC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-50727	VCC	100.00	99.99	100.00	0	0	0	0	0	0	0	0	0	100.00
	-50729	VCC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-50730	VCC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-50081	VCC	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-50082	VCC	0	0	0	0	0	100.00	100.00	99.80	100.00	99.93	100.00	100.00	99.90
	-50083	VCC	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	99.74	100.00	98.72
	-50084	VCC	0	0	0	0	0	100.00	100.00	99.94	100.00	100.00	99.72	97.09	99.59
	-50085	VCC	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	99.70	99.96
	-50086	VCC	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	99.17	100.00	99.90
	-50995	VCC	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-50996	VCC	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	98.92	99.87
	-50997	VCC	0	0	0	0	0	100.00	100.00	99.84	100.00	100.00	100.00	100.00	99.90

NOTE: 0 = Undetectable data or the circuit was deactivated.

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MONTHS												LONG TERM AVERAGE
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	
Dryden FRC (BNCV)/Houston (JSC) (Cont.)	CF-58998	VOC	0	0	0	0	100.00	99.87	100.00	100.00	100.00	100.00	100.00	100.00	99.98
	-58999	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	99.84	100.00	99.98
	-59146	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59147	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59149	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59150	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59236	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59237	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59238	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	GNVD-8062	VDA	100.00	100.00	99.70	99.84	100.00	99.89	100.00	99.92	100.00	100.00	100.00	100.00	99.95
Dryden FRC (BNCV)/Houston (JSC) via SATCOM	-8063	VDA	100.00	98.72	100.00	100.00	99.90	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89
	-8064	VDA	99.93	98.68	99.95	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.08
	-8065	VDA	100.00	98.72	100.00	100.00	100.00	99.93	100.00	100.00	100.00	100.00	99.96	100.00	99.81
	-8069	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.92	100.00	100.00	100.00	100.00	99.99
	GNV-8066	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-8067	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-8068	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.92	100.00	100.00	100.00	100.00	99.99

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MONTH												LONG TERM AVERAGE	
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	1983	1984
Dryden FPC (UTCP)/Pasadena	CEA-58820	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58821	VDA	100.00	100.00	100.00	100.00	100.00	100.00	98.71	100.00	100.00	100.00	100.00	100.00	100.00	99.89
WSSC	70R-353	TTY	100.00	100.00	100.00	100.00	100.00	99.84	100.00	100.00	99.83	100.00	99.91	99.54	99.93	99.93
	CEA-58832	VDA	100.00	100.00	100.00	99.92	100.00	99.95	100.00	99.90	99.85	99.86	100.00	100.00	99.95	99.95
Dryden FPC (Buckhorn)	-58833	VDA	100.00	100.00	100.00	100.00	100.00	99.70	100.00	100.00	99.85	99.86	98.99	99.91	99.86	99.86
	-59153	VDA	100.00	99.60	100.00	100.00	99.93	99.82	99.97	99.95	100.00	99.94	100.00	100.00	99.93	99.93
Dryden FPC (Buckhorn) via SAVIUM	-59154	VDA	100.00	100.00	100.00	99.97	99.29	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.94	99.94
	QAD-8018-R	WDD	99.94	100.00	100.00	100.00	100.00	99.91	100.00	99.93	100.00	98.58	100.00	100.00	99.86	99.86
Dryden FPC (Buckhorn)/Goldstone	-8019-T	WDD	100.00	100.00	100.00	100.00	100.00	99.43	100.00	100.00	100.00	98.58	99.89	100.00	99.83	99.83
	3CD-3558	VDA	100.00	100.00	100.00	99.95	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.99
Dryden FPC (Buckhorn)/Houston (JSC)	-3559	VDA	100.00	100.00	100.00	99.95	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	3JDE-3326	VDA	100.00	100.00	100.00	99.95	100.00	100.00	100.00	100.00	100.00	100.00	0	100.00	100.00	100.00
Dryden FPC (Buckhorn)/Houston (JSC)	CEA-58709	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.88	100.00	100.00	99.99	99.99
	-58733	VDA	100.00	99.99	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-58878	VDA	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
		VDA	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE 13
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE OF SVC	MAY 1982	JUN. 1982	JUL. 1982	AUG. 1982	SEP. 1982	OCT. 1982	NOV. 1982	DEC. 1982	JAN 1983	FEB 1983	MAR 1983	A-4 1983	LONG TERM MAY
Dryden FNC (Buckhorn)/Pasadena	707-345	TTY	100.00	100.00	100.00	100.00	99.84	100.00	100.00	99.93	99.83	100.00	97.33	100.00	99.74
WSC	-355	TTY	100.00	100.00	100.00	100.00	99.84	100.00	100.00	100.00	99.83	100.00	97.33	100.00	99.75
Dryden FNC (SNF)/DPRC (BDCP)	5902-2666	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-2667	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-2668	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3023	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3025	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3027	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3029	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3031	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3033	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3035	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3037	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3039	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3041	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Durham (Univ of New Hampshire)/ USC Bldg-7	CD-58444	IDS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.91	100.00	99.99

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	JAN. 1982	JUL. 1982	AUG. 1982	SEP. 1982	OCT. 1982	NOV. 1982	DEC. 1982	JAN. 1983	FEB. 1983	MAR. 1983	APR. 1983	LONG TERM AUCZ
Edwards AFB (APFC)/DPC (BTOF)	5932-3145	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3146	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3147	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3148	VOC	0	95.79	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.62
	-3149	VOC	0	99.22	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	144.00	101.93
	-3150	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3151	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3152	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3153	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3154	VOC	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Edwards AFB (APFC)/Pasadena WSC 702-1407-T		TTY	100.00	100.00	100.00	100.00	100.00	78.32	97.86	100.00	100.00	100.00	100.00	98.02
El Paso (PAA)/Vandenber	CEA-59195	VDA	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
AFB (NSC)	-59196	VDA	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59197	VDA	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
Ft. Davis (McDonald Observatory)	OP-58373	TTY	99.66	100.00	99.91	100.00	0	100.00	100.00	0	0	0	0	99.93
Texas														
Ft. Huachuca (BTOC)/White Sands	CEA-58449	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
(NSC)	-58450	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MOSE OF	MAY 1982	JUN. 1982	JUL. 1982	AUG. 1982	SEP. 1982	OCT. 1982	NOV. 1982	DEC. 1982	JAN. 1983	FEB. 1983	MAR. 1983	APR. 1983	LONG TERM AVERAGE
Ft. Huachuca (BIOC)/White Sands	CP-58459	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
(NSB) (Cont.)															
Gilmore Creek via SATCOM	CDA-58413	VDA	99.93	100.00	99.78	100.00	99.72	99.93	99.92	99.96	99.96	98.76	99.48	99.99	99.75
(Greenbelt)	GMV-8041-R	VOC	98.39	99.67	98.05	98.39	98.33	97.58	96.67	100.00	100.00	100.00	100.00	99.96	98.92
	GMV-8000-R	WID	99.66	99.50	99.66	98.47	99.32	99.23	99.08	100.00	99.14	100.00	99.62	99.99	99.47
	-8040-R	WID	98.39	99.67	97.62	97.58	98.33	97.58	97.50	100.00	100.00	100.00	99.54	99.96	98.85
	98DA-188	VDA	99.92	100.00	99.78	100.00	99.70	99.91	99.91	99.84	99.98	98.14	99.67	99.99	99.74
	-189	VDA	100.00	100.00	99.78	100.00	99.70	99.93	99.92	99.90	99.98	99.71	99.36	99.94	99.85
	-238	VDA	99.92	100.00	99.78	99.95	99.70	99.93	99.91	99.84	99.98	98.11	99.67	99.94	99.73
	98D-12	WID	99.99	99.98	98.93	99.76	99.51	99.17	98.79	99.58	99.63	100.00	99.62	99.99	99.58
Gilmore Creek via SATCOM (Point Reyes)	CDA-58565	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
Goldard Space Center (TCS Van)	74DB-7222	WID	0	0	0	0	0	0	99.38	100.00	100.00	100.00	100.00	100.00	99.90
Goldstone	CDA-58461	DDB	100.00	99.84	99.70	99.62	99.73	99.74	99.85	99.72	99.82	99.00	99.62	100.00	99.72
	-58582	VDA	99.88	98.94	98.59	99.63	98.75	96.33	100.00	98.21	100.00	99.79	99.65	99.53	99.11
	GT-58869	TTY	99.71	99.92	99.71	99.62	98.70	97.46	99.57	99.81	99.94	99.90	99.33	99.81	99.46
Goldstone via SATCOM	CAVD-8026	VDA	100.00	99.61	100.00	99.44	100.00	99.98	99.97	100.00	99.92	99.70	100.00	100.00	99.89
	-8027	VDA	99.47	99.81	100.00	99.23	100.00	100.00	99.97	100.00	100.00	99.77	99.62	100.00	99.82
	GMV-8043-R	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE	LONG											
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983
Goldstone via SATCOM (Cont.)	QMD-5689	MD	100.00	99.31	100.00	99.95	99.64	99.73	99.87	100.00	99.66	99.56	99.71	100.00
	-8042-R	MD	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-8091-R	MD	100.00	99.98	99.80	99.15	100.00	100.00	99.88	100.00	100.00	99.32	99.71	100.00
	QDA-58228	VIA	100.00	99.61	100.00	99.95	99.53	100.00	99.06	98.96	98.24	94.69	100.00	99.17
Goldstone/Pasadena WSC	-58270	VIA	100.00	99.80	100.00	99.95	100.00	100.00	99.21	99.26	99.52	100.00	100.00	99.77
	-58271	VIA	100.00	99.80	100.00	99.95	97.15	100.00	99.72	99.26	99.52	100.00	100.00	99.57
	-58276	VIA	100.00	99.80	99.91	99.95	100.00	96.24	100.00	99.26	98.35	100.00	100.00	99.46
	70E-337	TTY	100.00	98.25	98.87	98.55	99.68	100.00	98.29	99.83	99.89	99.79	99.70	99.40
Goleta (Delco Electronics)/ Pasadena WSC	-339	TTY	100.00	99.24	99.73	99.22	99.70	100.00	99.31	99.83	100.00	99.79	99.70	99.53
	-359	TTY	100.00	100.00	100.00	99.95	99.70	97.73	98.17	99.24	98.84	99.90	96.86	99.20
	GP-58714	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.40	100.00	100.00	99.95
	QMD-8084-R	MD	0	0	0	0	0	0	0	99.38	100.00	100.00	99.78	100.00
Greenbelt (M23/28) & Houston (JSC)/White Sands (MOT)	MAX-8213-T	MD	0	0	0	0	0	0	0	0	0	0	0	97.35
	MPX-8210-T	MD	0	0	0	0	0	0	0	0	0	0	0	100.00
	JAX-8212-T	MD	0	0	0	0	0	0	0	0	0	0	0	100.00
	JPX-8209-T	MD	0	0	0	0	0	0	0	0	0	0	0	100.00
Guam via Jambourg (IS IV A P-6)	QDA-58695	VIA	0	99.73	99.69	100.00	100.00	97.43	99.78	99.03	99.97	100.00	99.98	100.00
	QDA-58343	MD	99.63	99.45	99.79	99.69	99.77	99.07	99.47	99.86	100.00	100.00	99.38	100.00
	-58344-R	MD	0	99.87	99.83	0	0	100.00	100.00	0	100.00	100.00	100.00	99.96
	-58345-R	MD	0	99.70	99.83	0	0	100.00	100.00	0	100.00	100.00	100.00	99.94
Guam via San Francisco (M2 & THANSPAC 1 Cables)	QDA-58470	VIA	98.43	99.52	99.54	99.75	99.42	97.65	98.42	99.65	100.00	99.61	99.51	99.83
	QR-58607	TTY	0	100.00	100.00	100.00	0	0	0	0	0	0	0	100.00

NOTE: 0 = Undetectable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVERAGE
Guam via San Francisco (M3 & TRANSWAC 1 Cables)	CD-59004	VIA	99.36	99.71	99.25	99.92	99.38	98.73	76.00	92.20	99.52	99.50	99.62	99.83	96.92
Hampton (Langley Research Center)	CD-58609	VIA	0	0	0	0	0	0	0	0	0	0	0	0	0
	58748	VIA	0	0	0	0	0	0	0	0	0	0	0	0	0
Hightstown (MCA)/GSRG	CP-58564	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	CP-58472	VOC	0	0	0	0	0	0	0	0	0	0	100.00	100.00	100.00
Hightstown (MCA)/Suitland (NOMA)	CD-58808	DIB	100.00	100.00	99.95	99.99	100.00	100.00	99.94	100.00	100.00	100.00	100.00	100.00	99.99
via GSRG															
Holmdury (Mullard Space Lab)/London	LA-7018	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Houston (NSC)	CD-58539	DIB	100.00	100.00	99.97	100.00	100.00	100.00	99.56	100.00	99.13	96.84	100.00	99.74	99.60
	-58919	DIB	0	0	0	0	0	0	0	0	0	0	0	0	0
	-58923	TTY	100.00	100.00	99.90	100.00	100.00	100.00	99.99	100.00	100.00	100.00	100.00	99.78	99.97
	-58924	TTY	100.00	100.00	99.98	100.00	100.00	100.00	99.99	100.00	100.00	100.00	100.00	99.78	99.98
	-59112	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.47	99.96
	CD-58293	VIA	99.65	99.83	99.82	100.00	99.88	100.00	99.81	99.97	100.00	100.00	99.82	100.00	99.90
	-58294	VIA	100.00	99.83	99.88	100.00	100.00	99.99	100.00	100.00	100.00	100.00	100.00	100.00	99.98
	-58425	VIA	100.00	99.74	100.00	100.00	99.88	100.00	100.00	99.95	100.00	100.00	100.00	100.00	99.96
	-59126	VIA	99.39	99.91	99.98	99.80	100.00	99.97	99.95	100.00	100.00	100.00	100.00	100.00	99.92
	-59127	VIA	97.85	100.00	99.98	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.82

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE	LONG													
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	TRM AVG	
			Houston (JSC) Cont.													
	GDN-59128	VDA	99.96	99.97	100.00	100.00	100.00	99.89	100.00	100.00	99.97	99.97	100.00	100.00	100.00	99.98
	GP-58292	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58580	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58597	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.69	99.96
	-58611	VOC	0	0	0	0	100.00	99.70	100.00	100.00	97.87	100.00	100.00	100.00	100.00	99.70
	-58612	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58613	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58615	VOC	0	0	0	0	100.00	100.00	99.89	100.00	97.30	100.00	100.00	100.00	100.00	99.65
	-58867	VOC	0	0	0	0	99.28	100.00	99.79	100.00	99.89	100.00	99.96	100.00	100.00	99.87
	-58868	VOC	0	0	0	0	100.00	100.00	100.00	99.96	100.00	100.00	100.00	100.00	100.00	100.00
	-59120	VOC	99.97	99.39	99.95	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	74.94
	-59121	VOC	100.00	99.92	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	99.99
	-59122	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	100.00
	-59123	VOC	99.67	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.97
	59125	VOC	100.00	100.00	100.00	100.00	100.00	100.00	99.97	100.00	100.00	0	0	0	0	100.00
	-59143	VOC	99.67	100.00	99.42	99.36	100.00	100.00	100.00	100.00	99.71	0	0	0	0	99.80
	-59232	VOC	100.00	99.86	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	99.98
	59292	VOC	100.00	99.84	100.00	0	0	0	0	0	0	0	0	0	0	99.95
	-59351	VOC	100.00	100.00	100.00	100.00	100.00	100.00	99.99	100.00	100.00	0	0	0	0	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTES	MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP. 1962	OCT. 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	MAY 1963	JUN 1963	JUL 1963	AUG 1963	SEP 1963	OCT 1963	NOV 1963	DEC 1963	JAN 1964	FEB 1964	MAR 1964	APR 1964	MAY 1964	JUN 1964	JUL 1964	AUG 1964	SEP 1964	OCT 1964	NOV 1964	DEC 1964	JAN 1965	FEB 1965	MAR 1965	APR 1965	MAY 1965	JUN 1965	JUL 1965	AUG 1965	SEP 1965	OCT 1965	NOV 1965	DEC 1965	JAN 1966	FEB 1966	MAR 1966	APR 1966	MAY 1966	JUN 1966	JUL 1966	AUG 1966	SEP 1966	OCT 1966	NOV 1966	DEC 1966	JAN 1967	FEB 1967	MAR 1967	APR 1967	MAY 1967	JUN 1967	JUL 1967	AUG 1967	SEP 1967	OCT 1967	NOV 1967	DEC 1967	JAN 1968	FEB 1968	MAR 1968	APR 1968	MAY 1968	JUN 1968	JUL 1968	AUG 1968	SEP 1968	OCT 1968	NOV 1968	DEC 1968	JAN 1969	FEB 1969	MAR 1969	APR 1969	MAY 1969	JUN 1969	JUL 1969	AUG 1969	SEP 1969	OCT 1969	NOV 1969	DEC 1969	JAN 1970	FEB 1970	MAR 1970	APR 1970	MAY 1970	JUN 1970	JUL 1970	AUG 1970	SEP 1970	OCT 1970	NOV 1970	DEC 1970	JAN 1971	FEB 1971	MAR 1971	APR 1971	MAY 1971	JUN 1971	JUL 1971	AUG 1971	SEP 1971	OCT 1971	NOV 1971	DEC 1971	JAN 1972	FEB 1972	MAR 1972	APR 1972	MAY 1972	JUN 1972	JUL 1972	AUG 1972	SEP 1972	OCT 1972	NOV 1972	DEC 1972	JAN 1973	FEB 1973	MAR 1973	APR 1973	MAY 1973	JUN 1973	JUL 1973	AUG 1973	SEP 1973	OCT 1973	NOV 1973	DEC 1973	JAN 1974	FEB 1974	MAR 1974	APR 1974	MAY 1974	JUN 1974	JUL 1974	AUG 1974	SEP 1974	OCT 1974	NOV 1974	DEC 1974	JAN 1975	FEB 1975	MAR 1975	APR 1975	MAY 1975	JUN 1975	JUL 1975	AUG 1975	SEP 1975	OCT 1975	NOV 1975	DEC 1975	JAN 1976	FEB 1976	MAR 1976	APR 1976	MAY 1976	JUN 1976	JUL 1976	AUG 1976	SEP 1976	OCT 1976	NOV 1976	DEC 1976	JAN 1977	FEB 1977	MAR 1977	APR 1977	MAY 1977	JUN 1977	JUL 1977	AUG 1977	SEP 1977	OCT 1977	NOV 1977	DEC 1977	JAN 1978	FEB 1978	MAR 1978	APR 1978	MAY 1978	JUN 1978	JUL 1978	AUG 1978	SEP 1978	OCT 1978	NOV 1978	DEC 1978	JAN 1979	FEB 1979	MAR 1979	APR 1979	MAY 1979	JUN 1979	JUL 1979	AUG 1979	SEP 1979	OCT 1979	NOV 1979	DEC 1979	JAN 1980	FEB 1980	MAR 1980	APR 1980	MAY 1980	JUN 1980	JUL 1980	AUG 1980	SEP 1980	OCT 1980	NOV 1980	DEC 1980	JAN 1981	FEB 1981	MAR 1981	APR 1981	MAY 1981	JUN 1981	JUL 1981	AUG 1981	SEP 1981	OCT 1981	NOV 1981	DEC 1981	JAN 1982	FEB 1982	MAR 1982	APR 1982	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	MAY 1983	JUN 1983	JUL 1983	AUG 1983	SEP 1983	OCT 1983	NOV 1983	DEC 1983	JAN 1984	FEB 1984	MAR 1984	APR 1984	MAY 1984	JUN 1984	JUL 1984	AUG 1984	SEP 1984	OCT 1984	NOV 1984	DEC 1984	JAN 1985	FEB 1985	MAR 1985	APR 1985	MAY 1985	JUN 1985	JUL 1985	AUG 1985	SEP 1985	OCT 1985	NOV 1985	DEC 1985	JAN 1986	FEB 1986	MAR 1986	APR 1986	MAY 1986	JUN 1986	JUL 1986	AUG 1986	SEP 1986	OCT 1986	NOV 1986	DEC 1986	JAN 1987	FEB 1987	MAR 1987	APR 1987	MAY 1987	JUN 1987	JUL 1987	AUG 1987	SEP 1987	OCT 1987	NOV 1987	DEC 1987	JAN 1988	FEB 1988	MAR 1988	APR 1988	MAY 1988	JUN 1988	JUL 1988	AUG 1988	SEP 1988	OCT 1988	NOV 1988	DEC 1988	JAN 1989	FEB 1989	MAR 1989	APR 1989	MAY 1989	JUN 1989	JUL 1989	AUG 1989	SEP 1989	OCT 1989	NOV 1989	DEC 1989	JAN 1990	FEB 1990	MAR 1990	APR 1990	MAY 1990	JUN 1990	JUL 1990	AUG 1990	SEP 1990	OCT 1990	NOV 1990	DEC 1990	JAN 1991	FEB 1991	MAR 1991	APR 1991	MAY 1991	JUN 1991	JUL 1991	AUG 1991	SEP 1991	OCT 1991	NOV 1991	DEC 1991	JAN 1992	FEB 1992	MAR 1992	APR 1992	MAY 1992	JUN 1992	JUL 1992	AUG 1992	SEP 1992	OCT 1992	NOV 1992	DEC 1992	JAN 1993	FEB 1993	MAR 1993	APR 1993	MAY 1993	JUN 1993	JUL 1993	AUG 1993	SEP 1993	OCT 1993	NOV 1993	DEC 1993	JAN 1994	FEB 1994	MAR 1994	APR 1994	MAY 1994	JUN 1994	JUL 1994	AUG 1994	SEP 1994	OCT 1994	NOV 1994	DEC 1994	JAN 1995	FEB 1995	MAR 1995	APR 1995	MAY 1995	JUN 1995	JUL 1995	AUG 1995	SEP 1995	OCT 1995	NOV 1995	DEC 1995	JAN 1996	FEB 1996	MAR 1996	APR 1996	MAY 1996	JUN 1996	JUL 1996	AUG 1996	SEP 1996	OCT 1996	NOV 1996	DEC 1996	JAN 1997	FEB 1997	MAR 1997	APR 1997	MAY 1997	JUN 1997	JUL 1997	AUG 1997	SEP 1997	OCT 1997	NOV 1997	DEC 1997	JAN 1998	FEB 1998	MAR 1998	APR 1998	MAY 1998	JUN 1998	JUL 1998	AUG 1998	SEP 1998	OCT 1998	NOV 1998	DEC 1998	JAN 1999	FEB 1999	MAR 1999	APR 1999	MAY 1999	JUN 1999	JUL 1999	AUG 1999	SEP 1999	OCT 1999	NOV 1999	DEC 1999	JAN 2000	FEB 2000	MAR 2000	APR 2000	MAY 2000	JUN 2000	JUL 2000	AUG 2000	SEP 2000	OCT 2000	NOV 2000	DEC 2000	JAN 2001	FEB 2001	MAR 2001	APR 2001	MAY 2001	JUN 2001	JUL 2001	AUG 2001	SEP 2001	OCT 2001	NOV 2001	DEC 2001	JAN 2002	FEB 2002	MAR 2002	APR 2002	MAY 2002	JUN 2002	JUL 2002	AUG 2002	SEP 2002	OCT 2002	NOV 2002	DEC 2002	JAN 2003	FEB 2003	MAR 2003	APR 2003	MAY 2003	JUN 2003	JUL 2003	AUG 2003	SEP 2003	OCT 2003	NOV 2003	DEC 2003	JAN 2004	FEB 2004	MAR 2004	APR 2004	MAY 2004	JUN 2004	JUL 2004	AUG 2004	SEP 2004	OCT 2004	NOV 2004	DEC 2004	JAN 2005	FEB 2005	MAR 2005	APR 2005	MAY 2005	JUN 2005	JUL 2005	AUG 2005	SEP 2005	OCT 2005	NOV 2005	DEC 2005	JAN 2006	FEB 2006	MAR 2006	APR 2006	MAY 2006	JUN 2006	JUL 2006	AUG 2006	SEP 2006	OCT 2006	NOV 2006	DEC 2006	JAN 2007	FEB 2007	MAR 2007	APR 2007	MAY 2007	JUN 2007	JUL 2007	AUG 2007	SEP 2007	OCT 2007	NOV 2007	DEC 2007	JAN 2008	FEB 2008	MAR 2008	APR 2008	MAY 2008	JUN 2008	JUL 2008	AUG 2008	SEP 2008	OCT 2008	NOV 2008	DEC 2008	JAN 2009	FEB 2009	MAR 2009	APR 2009	MAY 2009	JUN 2009	JUL 2009	AUG 2009	SEP 2009	OCT 2009	NOV 2009	DEC 2009	JAN 2010	FEB 2010	MAR 2010	APR 2010	MAY 2010	JUN 2010	JUL 2010	AUG 2010	SEP 2010	OCT 2010	NOV 2010	DEC 2010	JAN 2011	FEB 2011	MAR 2011	APR 2011	MAY 2011	JUN 2011	JUL 2011	AUG 2011	SEP 2011	OCT 2011	NOV 2011	DEC 2011	JAN 2012	FEB 2012	MAR 2012	APR 2012	MAY 2012	JUN 2012	JUL 2012	AUG 2012	SEP 2012	OCT 2012	NOV 2012	DEC 2012	JAN 2013	FEB 2013	MAR 2013	APR 2013	MAY 2013	JUN 2013	JUL 2013	AUG 2013	SEP 2013	OCT 2013	NOV 2013	DEC 2013	JAN 2014	FEB 2014	MAR 2014	APR 2014	MAY 2014	JUN 2014	JUL 2014	AUG 2014	SEP 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015	AUG 2015	SEP 2015	OCT 2015	NOV 2015	DEC 2015	JAN 2016	FEB 2016	MAR 2016	APR 2016	MAY 2016	JUN 2016	JUL 2016	AUG 2016	SEP 2016	OCT 2016	NOV 2016	DEC 2016	JAN 2017	FEB 2017	MAR 2017	APR 2017	MAY 2017	JUN 2017	JUL 2017	AUG 2017	SEP 2017	OCT 2017	NOV 2017	DEC 2017	JAN 2018	FEB 2018	MAR 2018	APR 2018	MAY 2018	JUN 2018	JUL 2018	AUG 2018	SEP 2018	OCT 2018	NOV 2018	DEC 2018	JAN 2019	FEB 2019	MAR 2019	APR 2019	MAY 2019	JUN 2019	JUL 2019	AUG 2019	SEP 2019	OCT 2019	NOV 2019	DEC 2019	JAN 2020	FEB 2020	MAR 2020	APR 2020	MAY 2020	JUN 2020	JUL 2020	AUG 2020	SEP 2020	OCT 2020	NOV 2020	DEC 2020	JAN 2021	FEB 2021	MAR 2021	APR 2021	MAY 2021	JUN 2021	JUL 2021	AUG 2021	SEP 2021	OCT 2021	NOV 2021	DEC 2021	JAN 2022	FEB 2022	MAR 2022	APR 2022	MAY 2022	JUN 2022	JUL 2022	AUG 2022	SEP 2022	OCT 2022	NOV 2022	DEC 2022	JAN 2023	FEB 2023	MAR 2023	APR 2023	MAY 2023	JUN 2023	JUL 2023	AUG 2023	SEP 2023	OCT 2023	NOV 2023	DEC 2023	JAN 2024	FEB 2024	MAR 2024	APR 2024	MAY 2024	JUN 2024	JUL 2024	AUG 2024	SEP 2024	OCT 2024	NOV 2024	DEC 2024	JAN 2025	FEB 2025	MAR 2025	APR 2025	MAY 2025	JUN 2025	JUL 2025	AUG 2025	SEP 2025	OCT 2025	NOV 2025	DEC 2025	JAN 2026	FEB 2026	MAR 2026	APR 2026	MAY 2026	JUN 2026	JUL 2026	AUG 2026	SEP 2026	OCT 2026	NOV 2026	DEC 2026	JAN 2027	FEB 2027	MAR 2027	APR 2027	MAY 2027	JUN 2027	JUL 2027	AUG 2027	SEP 2027	OCT 2027	NOV 2027	DEC 2027	JAN 2028	FEB 2028	MAR 2028	APR 2028	MAY 2028	JUN 2028	JUL 2028	AUG 2028	SEP 2028	OCT 2028	NOV 2028	DEC 2028	JAN 2029	FEB 2029	MAR 2029	APR 2029	MAY 2029	JUN 2029	JUL 2029	AUG 2029	SEP 2029	OCT 2029	NOV 2029	DEC 2029	JAN 2030	FEB 2030	MAR 2030	APR 2030	MAY 2030	JUN 2030	JUL 2030	AUG 2030	SEP 2030	OCT 2030	NOV 2030	DEC 2030	JAN 2031	FEB 2031	MAR 2031	APR 2031	MAY 2031	JUN 2031	JUL 2031	AUG 2031	SEP 2031	OCT 2031	NOV 2031	DEC 2031	JAN 2032	FEB 2032	MAR 2032	APR 2032	MAY 2032	JUN 2032	JUL 2032	AUG 2032	SEP 2032	OCT 2032	NOV 2032	DEC 2032	JAN 2033	FEB 2033	MAR 2033	APR 2033	MAY 2033	JUN 2033	JUL 2033	AUG 2033	SEP 2033	OCT 2033	NOV 2033	DEC 2033	JAN 2034	FEB 2034	MAR 2034	APR 2034	MAY 2034	JUN 2034	JUL 2034	AUG 2034	SEP 2034	OCT 2034	NOV 2034	DEC 2034	JAN 2035	FEB 2035	MAR 2035	APR 2035	MAY 2035	JUN 2035	JUL 2035	AUG 2035	SEP 2035	OCT 2035	NOV 2035	DEC 2035	JAN 2036	FEB 2036	MAR 2036	APR 2036	MAY 2036	JUN 2036	JUL 2036	AUG 2036	SEP 2036	OCT 2036	NOV 2036	DEC 2036	JAN 2037	FEB 2037	MAR 2037	APR 2037	MAY 2037	JUN 2037	JUL 2037	AUG 2037	SEP 2037	OCT 2037	NOV 2037	DEC 2037	JAN 2038	FEB 2038	MAR 2038	APR 2038	MAY 2038	JUN 2038	JUL 2038	AUG 2038	SEP 2038	OCT 2038	NOV 2038	DEC 2038	JAN 2039	FEB 2039	MAR 2039	APR 2039	MAY 2039	JUN 2039	JUL 2039	AUG 2039	SEP 2039	OCT 2039	NOV 2039	DEC 2039	JAN 2040	FEB 2040	MAR 2040	APR 2040	MAY 2040	JUN 2040	JUL 2040	AUG 2040	SEP 2040	OCT 2040	NOV 2040	DEC 2040	JAN 2041	FEB 2041	MAR 2041	APR 2041	MAY 2041	JUN 2041	JUL 2041	AUG 2041	SEP 2041	OCT 2041	NOV 2041	DEC 2041	JAN 2042	FEB 2042	MAR 2042	APR 2042	MAY 2042	JUN 2042	JUL 2042	AUG 2042	SEP 2042	OCT 2042	NOV 2042	DEC 2042	JAN 2043	FEB 2043	MAR 2043	APR 2043	MAY 2043	JUN 2043	JUL 2043	AUG 2043	SEP 2043	OCT 2043	NOV 2043	DEC 2043	JAN 2044	FEB 2044	MAR 2044	APR 2044	MAY 2044	JUN 2044	JUL 2044	AUG 2044	SEP 2044	OCT 2044	NOV 2044	DEC 2044	JAN 2045	FEB 2045	MAR 2045	APR 2045	MAY 2045	JUN 2045	JUL 2045	AUG 2045	SEP 2045	OCT 2045	NOV 2045	DEC 2045	JAN 2046	FEB 2046	MAR 2046	APR 2046	MAY 2046	JUN 2046	JUL 2046	AUG 2046	SEP 2046	OCT 2046	NOV 2046
------------------------	-------------------	-------	-------------	-------------	-------------	-------------	--------------	--------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE	MONTH												LOS TERM MOSE
			MAY 1962	JUN. 1962	JUL. 1962	AUG. 1962	SEP. 1962	OCT. 1962	NOV. 1962	DEC. 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	
Houston (JSC) via SACOM	GMW-8047	VIA	100.00	99.96	100.00	100.00	99.91	100.00	100.00	100.00	100.00	100.00	99.66	100.00	99.96
	-8048	VIA	100.00	99.60	100.00	99.85	100.00	100.00	100.00	100.00	100.00	100.00	99.66	100.00	99.93
	-8049	VIA	99.97	100.00	100.00	100.00	100.00	99.97	99.91	99.76	100.00	100.00	99.66	99.98	99.94
	-8055	VIA	99.96	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.95	99.99
	-8056	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.76	100.00	100.00	100.00	99.98
	-8057	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.86	99.22	100.00	100.00	99.92
	GMW-8050	VOC	99.75	99.82	100.00	99.92	100.00	100.00	99.75	100.00	99.97	100.00	100.00	100.00	99.93

NOTE: 0 - Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MILE OF	MONTH												LONG TRAIL MILE	
			MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963		
Houston (JSC) via SATCOM (Cont.)																
	CHW-8051	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.74	99.66	100.00	99.95	
	-8052	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.97	100.00	99.66	100.00	99.97	
	-8053	VOC	99.95	99.67	100.00	100.00	100.00	100.00	100.00	100.00	99.97	100.00	99.55	100.00	99.95	
	-8054	VOC	100.00	100.00	100.00	99.97	100.00	100.00	99.95	100.00	99.97	100.00	99.47	99.78	99.93	
	-8058	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	98.92	99.91	100.00	100.00	100.00	99.90	
	-8059	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	98.80	99.97	100.00	100.00	99.69	99.87	
	-8060	VOC	100.00	100.00	100.00	99.90	100.00	100.00	100.00	98.99	99.73	100.00	100.00	100.00	99.89	
	-8061	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.97	100.00	100.00	100.00	100.00	
	-8195	VOC	0	0	0	0	0	0	0	0	99.97	100.00	99.66	99.98	99.90	
	-8196	VOC	0	0	0	0	0	0	0	0	99.89	100.00	99.66	99.97	99.88	
	-8197	VOC	0	0	0	0	0	0	0	0	99.97	100.00	99.66	99.98	99.90	
	-8198	VOC	0	0	0	0	0	0	0	0	99.97	100.00	99.66	99.98	99.90	
	-8199	VOC	0	0	0	0	0	0	0	0	99.97	100.00	99.66	99.98	99.90	
	-8200	VOC	0	0	0	0	0	0	0	0	99.97	100.00	99.66	99.98	99.90	
	CHW-8090-F	WEO	100.00	100.00	99.78	100.00	99.13	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.91	
	CHW-8013	WEO	0	0	0	0	0	0	0	0	0	0	0	0	0	
	-8014	WEO	100.00	99.47	99.78	99.63	100.00	99.60	98.59	99.34	99.19	98.38	99.46	100.00	99.45	
	-8082-F	WEO	100.00	100.00	100.00	100.00	98.21	100.00	105.00	100.00	100.00	100.00	100.00	100.00	99.87	

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MONTH												LONG TERM AVERAGE
			MAY 1982	JUN. 1982	JUL. 1982	AUG. 1982	SEP. 1982	OCT. 1982	NOV. 1982	DEC. 1982	JAN. 1983	FEB. 1983	MAR. 1983	APR. 1983	
Houston (JSC) via WESTAR	CDJ8-600032-T	WED	99.99	100.00	99.92	99.30	100.00	99.66	99.77	99.90	99.71	99.99	99.89	99.51	99.86
	J8ED-800031-R	WED	99.50	99.98	100.00	99.30	99.65	99.29	99.77	100.00	99.85	100.00	100.00	100.00	99.78
Houston & Huntsville & MSC/ Looney (RI)	CD-58141	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Houston (JSC)/USPC (Bldg. 22)	CD-59312	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Houston (JSC)/Kennedy Space Center (LCC) via WESTAR	CD-58252-T	DAT	0	0	0	0	0	0	0	0	0	0	0	99.96	99.96
	MLJ8-800028	WED	100.00	100.00	99.69	99.30	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.92
Houston (JSC)/Merritt Island via WESTAR	MLJ8-800033-T	WED	0	0	0	0	0	0	0	0	0	0	0	0	0
Huntington Beach (MCD)/ Houston (JSC)	CP-58376 -58377	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
Huntington Beach (McDonnell- Douglas)/Pasadena WSC	CDA-58505 -58756	VDA	100.00	99.96	100.00	99.66	100.00	100.00	100.00	100.00	85.94	93.99	100.00	100.00	98.30
	2CP-551	VDA	100.00	100.00	100.00	100.00	100.00	100.00	99.49	100.00	86.68	100.00	76.93	100.00	96.93
	7CEP-89	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	98.21	100.00	100.00	99.85	99.85
Huntsville (MSFC)	CP-58374	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.79	100.00	100.00	100.00	99.98
	CFA-58631	VFX	0	0	0	0	0	0	0	0	0	0	0	0	0
	NSR-3079	TTY	99.12	99.97	99.37	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE	MONTH												LONG TERM AVERAGE
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	
Huntsville (NSFC) via SATCOM	GA00-8214	WDC	0	0	0	0	0	0	0	0	99.48	100.00	99.85	100.00	99.83
Huntsville (NSFC)/OSPC Bldg 23	GD-59042	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.96	100.00	100.00
Huntsville (NSFC)/Houston	GP-58715	VOC	99.89	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.97	100.00	99.99
(JSC)	-58716	VOC	99.93	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
	-58718	VOC	100.00	99.96	100.00	100.00	100.00	100.00	100.00	100.00	99.77	100.00	100.00	100.00	99.98
	-58719	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-58835	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58836	VOC	0	0	0	0	100.00	100.00	99.59	100.00	99.77	100.00	100.00	100.00	99.92
	-58837	VOC	0	0	0	0	100.00	100.00	99.19	100.00	99.77	100.00	100.00	100.00	99.87
	-58838	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.51	99.94
	-58839	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	99.92	100.00	100.00	99.99
	-59257	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59297	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59298	VOC	100.00	99.96	100.00	0	0	0	0	0	0	0	0	0	99.99
	-59299	VOC	100.00	99.60	100.00	100.00	99.95	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.96
	-59300	VOC	100.00	99.23	100.00	0	0	0	0	0	0	0	0	0	99.74
	-59342	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59374	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVERAGE
Huntville (MSRC)/Houston (ASRC)	GP-58365	VFX	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
(Cont.)															
Huntville (MSRC)/Kennedy Space Center (LOC)	GP-58678	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	100.00
Ithaca (Truckee Space Center)	GD-58154	VDA	0	0	0	0	0	0	0	0	100.00	100.00	0	0	100.00
	-58577	VDA	0	0	0	99.34	100.00	0	0	0	0	0	0	0	99.67
	-58639	VDA	0	0	0	0	100.00	99.12	0	0	100.00	100.00	100.00	0	99.82
	-58640	VDA	0	0	0	0	100.00	100.00	0	0	100.00	100.00	100.00	0	100.00
	GP-58690	TTY	0	0	0	0	0	0	0	0	89.90	100.00	0	0	94.95
Iowa City (Univ of Iowa)/GARC (Bldg 23)	GD-59041	DOS	99.98	100.00	99.94	100.00	100.00	99.98	99.05	99.72	99.80	99.94	100.00	100.00	99.87
	-59045	DOS	100.00	100.00	100.00	100.00	100.00	99.98	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Kauai via Greenbelt-Barking Sands (SATCOM II)	GD-8024	VDA	100.00	99.89	100.00	100.00	100.00	99.59	97.30	99.44	100.00	91.20	100.00	100.00	90.62
	-8025	VDA	100.00	99.84	100.00	99.67	100.00	99.87	97.66	99.44	100.00	100.00	100.00	100.00	99.71
	-8080	VDA	99.98	99.25	100.00	100.00	99.93	100.00	97.60	99.29	100.00	100.00	99.92	100.00	99.66
	GD-5633	WED	99.66	89.74	100.00	100.00	100.00	100.00	97.58	99.79	100.00	98.70	100.00	100.00	98.79
	-8038-R	WED	99.66	99.96	100.00	100.00	100.00	100.00	97.66	99.79	100.00	98.70	100.00	100.00	99.65
	-8039-R	WED	99.99	100.00	100.00	100.00	100.00	100.00	97.66	99.79	100.00	98.70	100.00	100.00	99.68
Kauai via Hawley-Sunset Beach (COMSTAR)	GD-58423	VDA	99.38	99.59	99.24	99.42	100.00	99.80	77.59	90.41	95.91	99.95	100.00	99.52	96.73
Kauai via San Francisco (M3 Cable)	GD-58553	VDA	100.00	97.95	99.63	100.00	99.49	97.51	81.92	99.53	97.78	94.30	98.87	98.33	97.11
Kennedy Space Center (CDASC)	GD-58418	VDA	100.00	99.91	100.00	100.00	99.75	100.00	100.00	100.00	100.00	99.99	100.00	100.00	99.97

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVG
Kennedy Space Center (D4SC)/	GD-58941	DAT	0	0	0	100.00	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Houston (JSC)	GD-58757	VIA	100.00	100.00	100.00	100.00	99.86	100.00	99.79	100.00	100.00	100.00	90.34	100.00	99.17
	-58759	VIA	100.00	100.00	100.00	100.00	100.00	100.00	99.97	100.00	100.00	100.00	100.00	100.00	100.00
	-58760	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58761	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58762	VIA	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-58763	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58764	VIA	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-58765	VIA	99.64	100.00	0	0	0	0	0	0	0	0	0	0	99.82
	-58766	VIA	100.00	99.94	99.98	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
	-58840	VIA	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58841	VIA	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58843	VIA	0	0	0	0	100.00	100.00	99.97	100.00	100.00	100.00	100.00	100.00	100.00
	GP-58592	VOC	0	0	0	0	100.00	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58593	VOC	0	0	0	0	0	0	99.25	100.00	100.00	100.00	100.00	100.00	99.88
	-58772	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-58784	VOC	100.00	96.56	100.00	0	0	0	0	0	0	0	0	0	96.85
	-58807	VOC	100.00	100.00	99.89	100.00	100.00	100.00	95.72	100.00	100.00	99.80	100.00	100.00	99.62

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MILE												LONG	
		SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	MAY 1983	JUN 1983	JUL 1983	AUG 1983	SEP 1983	OCT 1983
Kennedy Space Center (KSC)/ Houston (HSC) Cont.	GP-50044	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50045	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50046	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50047	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50048	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50049	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50050	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50051	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50052	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50053	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50054	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50055	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50056	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50057	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50058	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-50059	VCC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MONTH												LONG TERM AVERAGE
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	
Kennedy Space Center (CRLSC)/ Houston (JSC)(Cont.)	GP-58860	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58861	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	99.85	100.00	99.98
	-58862	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58863	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	99.93	100.00	99.99
	-58864	VOC	0	0	0	0	100.00	100.00	99.77	100.00	100.00	100.00	100.00	100.00	99.97
	-58865	VOC	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59185	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59258	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59259	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59260	VOC	100.00	100.00	100.00	100.00	99.96	100.00	99.85	100.00	100.00	100.00	100.00	100.00	99.98
	-59261	VOC	100.00	99.78	100.00	0	0	0	0	0	0	0	0	0	99.93
	-59262	VOC	100.00	100.00	100.00	100.00	100.00	100.00	99.97	100.00	100.00	100.00	100.00	100.00	100.00
	-59263	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59264	VOC	97.71	100.00	100.00	0	0	0	0	0	0	0	0	0	99.24
	-59265	VOC	98.33	100.00	100.00	0	0	0	0	0	0	0	0	0	99.44

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MTH												LONG TERM AVGE
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	
Kennedy Space Center (COMSC)/ Houston (JSC)(Cont.)	GP-59266	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59267	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.93	99.89	99.99
	-59268	VOC	100.00	96.5%	100.00	100.00	99.94	100.00	99.97	100.00	100.00	99.75	100.00	99.81	99.67
	-59269	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59270	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59271	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.88	100.00	99.99
	-59272	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59273	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.91	100.00	100.00	100.00	99.99
	-59274	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59275	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59276	VOC	100.00	99.97	99.38	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.95
	-59277	VOC	100.00	100.00	100.00	100.00	100.00	99.83	100.00	100.00	100.00	100.00	100.00	100.00	99.99
	-59278	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	96.69	100.00	99.72

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MONTH												LONG TERM AVERAGE
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	
Kennedy Space Center (CDLSC)/ Houston (JSC) (Cont.)	GP-59279	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59280	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59281	VOC	98.35	100.00	100.00	0	0	0	0	0	0	0	0	0	99.45
	-59282	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59283	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59293	VOC	100.00	99.92	100.00	0	0	0	0	0	0	0	0	0	99.97
	-59294	VOC	100.00	100.00	100.00	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59295	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
Kennedy Space Center (CIF)	-59301	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	GD-58247-R	DAT	100.00	100.00	100.00	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	GDA-58418	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
Kennedy Space Center (CIF)/ Houston (JSC)	GD-59118	DAT	99.98	100.00	100.00	100.00	100.00	100.00	100.00	99.98	100.00	100.00	100.00	100.00	100.00
	GP-58649	VOC	0	0	0	0	100.00	100.00	0	0	0	0	0	0	100.00
	GDA-58646	VDA	0	0	0	100.00	100.00	0	0	0	0	0	0	0	100.00
Kourou (French Guiana)	-58647	VDA	0	0	0	100.00	100.00	0	0	0	0	0	0	0	100.00
	-58648	VDA	0	0	0	100.00	100.00	0	0	0	0	0	0	0	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE 18
OF POOR QUALITY

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MOSE												LONG																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	MAY 1963	JUN 1963	JUL 1963	AUG 1963	SEP 1963	OCT 1963	NOV 1963	DEC 1963	JAN 1964	FEB 1964	MAR 1964	APR 1964	MAY 1964	JUN 1964	JUL 1964	AUG 1964	SEP 1964	OCT 1964	NOV 1964	DEC 1964	JAN 1965	FEB 1965	MAR 1965	APR 1965	MAY 1965	JUN 1965	JUL 1965	AUG 1965	SEP 1965	OCT 1965	NOV 1965	DEC 1965	JAN 1966	FEB 1966	MAR 1966	APR 1966	MAY 1966	JUN 1966	JUL 1966	AUG 1966	SEP 1966	OCT 1966	NOV 1966	DEC 1966	JAN 1967	FEB 1967	MAR 1967	APR 1967	MAY 1967	JUN 1967	JUL 1967	AUG 1967	SEP 1967	OCT 1967	NOV 1967	DEC 1967	JAN 1968	FEB 1968	MAR 1968	APR 1968	MAY 1968	JUN 1968	JUL 1968	AUG 1968	SEP 1968	OCT 1968	NOV 1968	DEC 1968	JAN 1969	FEB 1969	MAR 1969	APR 1969	MAY 1969	JUN 1969	JUL 1969	AUG 1969	SEP 1969	OCT 1969	NOV 1969	DEC 1969	JAN 1970	FEB 1970	MAR 1970	APR 1970	MAY 1970	JUN 1970	JUL 1970	AUG 1970	SEP 1970	OCT 1970	NOV 1970	DEC 1970	JAN 1971	FEB 1971	MAR 1971	APR 1971	MAY 1971	JUN 1971	JUL 1971	AUG 1971	SEP 1971	OCT 1971	NOV 1971	DEC 1971	JAN 1972	FEB 1972	MAR 1972	APR 1972	MAY 1972	JUN 1972	JUL 1972	AUG 1972	SEP 1972	OCT 1972	NOV 1972	DEC 1972	JAN 1973	FEB 1973	MAR 1973	APR 1973	MAY 1973	JUN 1973	JUL 1973	AUG 1973	SEP 1973	OCT 1973	NOV 1973	DEC 1973	JAN 1974	FEB 1974	MAR 1974	APR 1974	MAY 1974	JUN 1974	JUL 1974	AUG 1974	SEP 1974	OCT 1974	NOV 1974	DEC 1974	JAN 1975	FEB 1975	MAR 1975	APR 1975	MAY 1975	JUN 1975	JUL 1975	AUG 1975	SEP 1975	OCT 1975	NOV 1975	DEC 1975	JAN 1976	FEB 1976	MAR 1976	APR 1976	MAY 1976	JUN 1976	JUL 1976	AUG 1976	SEP 1976	OCT 1976	NOV 1976	DEC 1976	JAN 1977	FEB 1977	MAR 1977	APR 1977	MAY 1977	JUN 1977	JUL 1977	AUG 1977	SEP 1977	OCT 1977	NOV 1977	DEC 1977	JAN 1978	FEB 1978	MAR 1978	APR 1978	MAY 1978	JUN 1978	JUL 1978	AUG 1978	SEP 1978	OCT 1978	NOV 1978	DEC 1978	JAN 1979	FEB 1979	MAR 1979	APR 1979	MAY 1979	JUN 1979	JUL 1979	AUG 1979	SEP 1979	OCT 1979	NOV 1979	DEC 1979	JAN 1980	FEB 1980	MAR 1980	APR 1980	MAY 1980	JUN 1980	JUL 1980	AUG 1980	SEP 1980	OCT 1980	NOV 1980	DEC 1980	JAN 1981	FEB 1981	MAR 1981	APR 1981	MAY 1981	JUN 1981	JUL 1981	AUG 1981	SEP 1981	OCT 1981	NOV 1981	DEC 1981	JAN 1982	FEB 1982	MAR 1982	APR 1982	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	MAY 1983	JUN 1983	JUL 1983	AUG 1983	SEP 1983	OCT 1983	NOV 1983	DEC 1983	JAN 1984	FEB 1984	MAR 1984	APR 1984	MAY 1984	JUN 1984	JUL 1984	AUG 1984	SEP 1984	OCT 1984	NOV 1984	DEC 1984	JAN 1985	FEB 1985	MAR 1985	APR 1985	MAY 1985	JUN 1985	JUL 1985	AUG 1985	SEP 1985	OCT 1985	NOV 1985	DEC 1985	JAN 1986	FEB 1986	MAR 1986	APR 1986	MAY 1986	JUN 1986	JUL 1986	AUG 1986	SEP 1986	OCT 1986	NOV 1986	DEC 1986	JAN 1987	FEB 1987	MAR 1987	APR 1987	MAY 1987	JUN 1987	JUL 1987	AUG 1987	SEP 1987	OCT 1987	NOV 1987	DEC 1987	JAN 1988	FEB 1988	MAR 1988	APR 1988	MAY 1988	JUN 1988	JUL 1988	AUG 1988	SEP 1988	OCT 1988	NOV 1988	DEC 1988	JAN 1989	FEB 1989	MAR 1989	APR 1989	MAY 1989	JUN 1989	JUL 1989	AUG 1989	SEP 1989	OCT 1989	NOV 1989	DEC 1989	JAN 1990	FEB 1990	MAR 1990	APR 1990	MAY 1990	JUN 1990	JUL 1990	AUG 1990	SEP 1990	OCT 1990	NOV 1990	DEC 1990	JAN 1991	FEB 1991	MAR 1991	APR 1991	MAY 1991	JUN 1991	JUL 1991	AUG 1991	SEP 1991	OCT 1991	NOV 1991	DEC 1991	JAN 1992	FEB 1992	MAR 1992	APR 1992	MAY 1992	JUN 1992	JUL 1992	AUG 1992	SEP 1992	OCT 1992	NOV 1992	DEC 1992	JAN 1993	FEB 1993	MAR 1993	APR 1993	MAY 1993	JUN 1993	JUL 1993	AUG 1993	SEP 1993	OCT 1993	NOV 1993	DEC 1993	JAN 1994	FEB 1994	MAR 1994	APR 1994	MAY 1994	JUN 1994	JUL 1994	AUG 1994	SEP 1994	OCT 1994	NOV 1994	DEC 1994	JAN 1995	FEB 1995	MAR 1995	APR 1995	MAY 1995	JUN 1995	JUL 1995	AUG 1995	SEP 1995	OCT 1995	NOV 1995	DEC 1995	JAN 1996	FEB 1996	MAR 1996	APR 1996	MAY 1996	JUN 1996	JUL 1996	AUG 1996	SEP 1996	OCT 1996	NOV 1996	DEC 1996	JAN 1997	FEB 1997	MAR 1997	APR 1997	MAY 1997	JUN 1997	JUL 1997	AUG 1997	SEP 1997	OCT 1997	NOV 1997	DEC 1997	JAN 1998	FEB 1998	MAR 1998	APR 1998	MAY 1998	JUN 1998	JUL 1998	AUG 1998	SEP 1998	OCT 1998	NOV 1998	DEC 1998	JAN 1999	FEB 1999	MAR 1999	APR 1999	MAY 1999	JUN 1999	JUL 1999	AUG 1999	SEP 1999	OCT 1999	NOV 1999	DEC 1999	JAN 2000	FEB 2000	MAR 2000	APR 2000	MAY 2000	JUN 2000	JUL 2000	AUG 2000	SEP 2000	OCT 2000	NOV 2000	DEC 2000	JAN 2001	FEB 2001	MAR 2001	APR 2001	MAY 2001	JUN 2001	JUL 2001	AUG 2001	SEP 2001	OCT 2001	NOV 2001	DEC 2001	JAN 2002	FEB 2002	MAR 2002	APR 2002	MAY 2002	JUN 2002	JUL 2002	AUG 2002	SEP 2002	OCT 2002	NOV 2002	DEC 2002	JAN 2003	FEB 2003	MAR 2003	APR 2003	MAY 2003	JUN 2003	JUL 2003	AUG 2003	SEP 2003	OCT 2003	NOV 2003	DEC 2003	JAN 2004	FEB 2004	MAR 2004	APR 2004	MAY 2004	JUN 2004	JUL 2004	AUG 2004	SEP 2004	OCT 2004	NOV 2004	DEC 2004	JAN 2005	FEB 2005	MAR 2005	APR 2005	MAY 2005	JUN 2005	JUL 2005	AUG 2005	SEP 2005	OCT 2005	NOV 2005	DEC 2005	JAN 2006	FEB 2006	MAR 2006	APR 2006	MAY 2006	JUN 2006	JUL 2006	AUG 2006	SEP 2006	OCT 2006	NOV 2006	DEC 2006	JAN 2007	FEB 2007	MAR 2007	APR 2007	MAY 2007	JUN 2007	JUL 2007	AUG 2007	SEP 2007	OCT 2007	NOV 2007	DEC 2007	JAN 2008	FEB 2008	MAR 2008	APR 2008	MAY 2008	JUN 2008	JUL 2008	AUG 2008	SEP 2008	OCT 2008	NOV 2008	DEC 2008	JAN 2009	FEB 2009	MAR 2009	APR 2009	MAY 2009	JUN 2009	JUL 2009	AUG 2009	SEP 2009	OCT 2009	NOV 2009	DEC 2009	JAN 2010	FEB 2010	MAR 2010	APR 2010	MAY 2010	JUN 2010	JUL 2010	AUG 2010	SEP 2010	OCT 2010	NOV 2010	DEC 2010	JAN 2011	FEB 2011	MAR 2011	APR 2011	MAY 2011	JUN 2011	JUL 2011	AUG 2011	SEP 2011	OCT 2011	NOV 2011	DEC 2011	JAN 2012	FEB 2012	MAR 2012	APR 2012	MAY 2012	JUN 2012	JUL 2012	AUG 2012	SEP 2012	OCT 2012	NOV 2012	DEC 2012	JAN 2013	FEB 2013	MAR 2013	APR 2013	MAY 2013	JUN 2013	JUL 2013	AUG 2013	SEP 2013	OCT 2013	NOV 2013	DEC 2013	JAN 2014	FEB 2014	MAR 2014	APR 2014	MAY 2014	JUN 2014	JUL 2014	AUG 2014	SEP 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015	AUG 2015	SEP 2015	OCT 2015	NOV 2015	DEC 2015	JAN 2016	FEB 2016	MAR 2016	APR 2016	MAY 2016	JUN 2016	JUL 2016	AUG 2016	SEP 2016	OCT 2016	NOV 2016	DEC 2016	JAN 2017	FEB 2017	MAR 2017	APR 2017	MAY 2017	JUN 2017	JUL 2017	AUG 2017	SEP 2017	OCT 2017	NOV 2017	DEC 2017	JAN 2018	FEB 2018	MAR 2018	APR 2018	MAY 2018	JUN 2018	JUL 2018	AUG 2018	SEP 2018	OCT 2018	NOV 2018	DEC 2018	JAN 2019	FEB 2019	MAR 2019	APR 2019	MAY 2019	JUN 2019	JUL 2019	AUG 2019	SEP 2019	OCT 2019	NOV 2019	DEC 2019	JAN 2020	FEB 2020	MAR 2020	APR 2020	MAY 2020	JUN 2020	JUL 2020	AUG 2020	SEP 2020	OCT 2020	NOV 2020	DEC 2020	JAN 2021	FEB 2021	MAR 2021	APR 2021	MAY 2021	JUN 2021	JUL 2021	AUG 2021	SEP 2021	OCT 2021	NOV 2021	DEC 2021	JAN 2022	FEB 2022	MAR 2022	APR 2022	MAY 2022	JUN 2022	JUL 2022	AUG 2022	SEP 2022	OCT 2022	NOV 2022	DEC 2022	JAN 2023	FEB 2023	MAR 2023	APR 2023	MAY 2023	JUN 2023	JUL 2023	AUG 2023	SEP 2023	OCT 2023	NOV 2023	DEC 2023	JAN 2024	FEB 2024	MAR 2024	APR 2024	MAY 2024	JUN 2024	JUL 2024	AUG 2024	SEP 2024	OCT 2024	NOV 2024	DEC 2024	JAN 2025	FEB 2025	MAR 2025	APR 2025	MAY 2025	JUN 2025	JUL 2025	AUG 2025	SEP 2025	OCT 2025	NOV 2025	DEC 2025	JAN 2026	FEB 2026	MAR 2026	APR 2026	MAY 2026	JUN 2026	JUL 2026	AUG 2026	SEP 2026	OCT 2026	NOV 2026	DEC 2026	JAN 2027	FEB 2027	MAR 2027	APR 2027	MAY 2027	JUN 2027	JUL 2027	AUG 2027	SEP 2027	OCT 2027	NOV 2027	DEC 2027	JAN 2028	FEB 2028	MAR 2028	APR 2028	MAY 2028	JUN 2028	JUL 2028	AUG 2028	SEP 2028	OCT 2028	NOV 2028	DEC 2028	JAN 2029	FEB 2029	MAR 2029	APR 2029	MAY 2029	JUN 2029	JUL 2029	AUG 2029	SEP 2029	OCT 2029	NOV 2029	DEC 2029	JAN 2030	FEB 2030	MAR 2030	APR 2030	MAY 2030	JUN 2030	JUL 2030	AUG 2030	SEP 2030	OCT 2030	NOV 2030	DEC 2030	JAN 2031	FEB 2031	MAR 2031	APR 2031	MAY 2031	JUN 2031	JUL 2031	AUG 2031	SEP 2031	OCT 2031	NOV 2031	DEC 2031	JAN 2032	FEB 2032	MAR 2032	APR 2032	MAY 2032	JUN 2032	JUL 2032	AUG 2032	SEP 2032	OCT 2032	NOV 2032	DEC 2032	JAN 2033	FEB 2033	MAR 2033	APR 2033	MAY 2033	JUN 2033	JUL 2033	AUG 2033	SEP 2033	OCT 2033	NOV 2033	DEC 2033	JAN 2034	FEB 2034	MAR 2034	APR 2034	MAY 2034	JUN 2034	JUL 2034	AUG 2034	SEP 2034	OCT 2034	NOV 2034	DEC 2034	JAN 2035	FEB 2035	MAR 2035	APR 2035	MAY 2035	JUN 2035	JUL 2035	AUG 2035	SEP 2035	OCT 2035	NOV 2035	DEC 2035	JAN 2036	FEB 2036	MAR 2036	APR 2036	MAY 2036	JUN 2036	JUL 2036	AUG 2036	SEP 2036	OCT 2036	NOV 2036	DEC 2036	JAN 2037	FEB 2037	MAR 2037	APR 2037	MAY 2037	JUN 2037	JUL 2037	AUG 2037	SEP 2037	OCT 2037	NOV 2037	DEC 2037	JAN 2038	FEB 2038	MAR 2038	APR 2038	MAY 2038	JUN 2038	JUL 2038	AUG 2038	SEP 2038	OCT 2038	NOV 2038	DEC 2038	JAN 2039	FEB 2039	MAR 2039	APR 2039	MAY 2039	JUN 2039	JUL 2039	AUG 2039	SEP 2039	OCT 2039	NOV 2039	DEC 2039	JAN 2040	FEB 2040	MAR 2040	APR 2040	MAY 2040	JUN 2040	JUL 2040	AUG 2040	SEP 2040	OCT 2040	NOV 2040	DEC 2040	JAN 2041	FEB 2041	MAR 2041	APR 2041	MAY 2041	JUN 2041	JUL 2041	AUG 2041	SEP 2041	OCT 2041	NOV 2041	DEC 2041	JAN 2042	FEB 2042	MAR 2042	APR 2042	MAY 2042	JUN 2042	JUL 2042	AUG 2042	SEP 2042	OCT 2042	NOV 2042	DEC 2042	JAN 2043	FEB 2043	MAR 2043	APR 2043	MAY 2043	JUN 2043	JUL 2043	AUG 2043	SEP 2043	OCT 2043	NOV 2043	DEC 2043	JAN 2044	FEB 2044	MAR 2044	APR 2044	MAY 2044	JUN 2044	JUL 2044	AUG 2044	SEP 2044	OCT 2044	NOV 2044	DEC 2044	JAN 2045	FEB 2045	MAR 2045	APR 2045	MAY 2045	JUN 2045	JUL 2045	AUG 2045	SEP 2045	OCT 2045	NOV 2045	DEC 2045	JAN 2046	FEB 2046	MAR 2046	APR 2046	MAY 2046	JUN 2046	JUL 2046

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE	LONG											
			DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	MAY 1983	JUN 1983	JUL 1983	AUG 1983	SEP 1983	OCT 1983	NOV 1983
Madrid via Antwerp-Agincourt (see Table 4, IS IV A P-4)	WJ1-199		98.63	99.54	98.12	99.52	98.39	99.27	99.31	98.95	98.67	99.03	99.57	98.59
Madrid via TAT-5 Cable	QEM-58456	VDA	99.26	99.01	98.08	99.33	98.55	99.87	99.65	99.50	99.67	99.34	99.00	98.11
	-58451	VDA	99.73	99.36	98.95	99.73	98.99	99.59	99.55	99.41	99.80	99.13	99.49	99.06
	-58452	VDA	99.29	99.54	99.14	99.75	98.06	98.14	99.11	99.76	99.33	99.75	99.41	99.65
Madrid via TAT-6 Cable	QEM-58447	VDA	99.78	98.40	99.39	99.71	99.65	99.64	99.48	99.51	99.91	99.84	99.81	99.60
	-58052	VDA	99.96	98.55	99.65	99.76	99.97	99.85	99.88	99.43	99.18	99.38	99.75	99.80
	-58053	VDA	99.93	98.29	100.00	99.68	99.92	99.84	99.91	99.99	99.81	99.44	99.56	99.71
Madrid STUN/Noledo	EMV-50	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-51	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-52	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-53	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-54	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-55	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-56	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-57	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	NOTE	MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	LONG TERM AVERAGE
Mask id STW/whblecb (Cont.)	WH-1	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-2	WED	100.00	100.00	96.73	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.73
	-3	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-4	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Mask id via DSS-61 & DSS-63/whblecb	WH-1	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-2	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-3	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-13	VOC	100.00	99.87	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
	-14	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-61	VOC	100.00	95.36	99.57	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.56
	-62	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-63	VOC	100.00	100.00	97.32	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.76
	-64	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-65	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-66	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-67	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Mask id DSS-63/whblecb	WH-11	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-12	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE	MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	LONG TERM AVG
Marrick (NSA-100A Office)/ Muleto	DPW-1	VDA	100.00	100.00	99.56	99.91	99.56	100.00	100.00	100.00	100.00	99.98	100.00	99.88	99.91
	DPW-9	TTY	100.00	0	0	0	0	0	0	0	0	0	0	0	100.00
	DPW-60	VDC	100.00	100.00	100.00	99.91	100.00	100.00	100.00	100.00	100.00	99.95	100.00	99.88	99.98
Merritt Island	CD-50610	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	CD-50274	VDA	100.00	99.96	100.00	100.00	99.86	100.00	99.95	100.00	100.00	100.00	100.00	100.00	99.98
	-50275	VDA	100.00	99.91	100.00	100.00	99.86	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.98
	-50477	VDA	100.00	99.94	99.80	99.57	99.86	100.00	99.96	100.00	99.91	99.97	99.83	99.67	99.81
	-50478	VDA	100.00	100.00	99.97	99.93	99.80	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89
	-50501	VDA	99.56	99.96	100.00	99.60	99.59	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89
	-50661	DDS	100.00	99.96	100.00	100.00	99.86	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
	-50735	VDA	99.77	100.00	100.00	100.00	99.86	99.14	99.49	100.00	100.00	100.00	99.98	100.00	99.85
	-50740	VDA	99.97	100.00	100.00	100.00	99.95	97.84	100.00	100.00	100.00	100.00	100.00	100.00	99.81
	-50749	VDA	100.00	100.00	100.00	100.00	99.86	100.00	100.00	100.00	100.00	100.00	99.85	100.00	99.98
	-50750	VDA	100.00	99.96	100.00	100.00	99.86	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
Merritt Island (POL) via COMSTAR	GM-50560-R	MD	100.00	99.98	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Merritt Island (POL) & Cape (Nauru) via COMSTAR	GM-50567	MD	100.00	99.97	99.94	99.53	99.88	100.00	100.00	99.75	99.78	100.00	100.00	100.00	99.90
Merritt Island via WESTAR	MD-800021	MD	100.00	99.78	99.41	100.00	99.31	99.94	99.56	99.94	100.00	100.00	99.55	99.84	99.78
	-800024	MD	99.85	100.00	99.38	99.87	99.41	99.80	98.11	100.00	99.89	99.99	100.00	99.51	99.65

NOTE 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE	MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	LONG TERM AVAIL
Harris Island/Houston (JSC)	CD-58428	VDA	100.00	100.00	100.00	100.00	99.86	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
Huffett Field (AMC)/Dryden FSC	CHD-8085-T	WED	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
via SATCOM															
Huffett Field (Ames Research Center)/Pasadena MSC	CD-58268 -58269 -58273 -58324 -58336 -58379 -58632	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.52	99.38	100.00	97.81	97.34	99.50
		VDA	99.78	100.00	100.00	100.00	100.00	99.81	100.00	99.84	97.19	99.74	97.81	97.56	99.31
		VDA	97.7	100.00	100.00	97.97	100.00	99.81	100.00	99.78	99.88	99.38	97.81	100.00	99.31
		VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	82.91	100.00	100.00	97.81	100.00	98.39
		VDA	98.73	99.72	100.00	99.33	97.63	100.00	100.00	95.57	94.83	100.00	94.87	100.00	98.32
		VDA	100.00	99.44	99.78	100.00	99.78	100.00	100.00	99.84	96.73	98.22	97.36	99.51	99.22
		VDA	100.00	99.93	99.60	98.21	100.00	100.00	99.82	99.76	92.61	100.00	95.71	98.40	98.67
		VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.60	99.97
		TTY	95.78	98.13	100.00	100.00	97.22	100.00	100.00	99.82	99.56	99.89	97.16	99.52	98.92
Monterey (PASC)/Gillmore Creek	CHD-8020-R	WED	98.72	99.78	99.66	98.49	99.32	99.25	99.70	100.00	99.99	100.00	99.62	100.00	99.54
via SATCOM															
Monterey (PASC)/Pasadena MSC	CP-58215	VXC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Armut Peak (Stoblen)/Pasadena MSC	CP-358	TTY	100.00	100.00	100.00	98.89	100.00	100.00	0	0	0	0	0	0	99.82
via SATCOM															
Mount Lemaire & Ft. Huachuca	CP-58494-T	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
New York (Courant Inst)/USMC	CD-58430	WAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0	0	0	0	100.00
New York (GERS)	CD 58584	DDG	98.74	100.00	99.95	100.00	100.00	100.00	100.00	99.83	100.00	100.00	100.00	100.00	99.89

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE OF CIRCUIT	MONTH												LONG TERM AVERAGE
			MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	
Ottawa (OSC)	GR-58825	VTT	99.68	100.00	100.00	100.00	100.00	100.00	99.94	100.00	100.00	100.00	100.00	100.00	99.97
	KZP-7190	VCC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	GD-59046	DIB	99.77	99.97	99.59	99.77	100.00	100.00	99.19	100.00	100.00	99.94	100.00	99.95	99.91
Pasadena WSC (Bldg. 23)	GD-58320	VDA	0	0	0	0	0	0	0	0	0	0	0	0	99.85
	GD-58235	VDA	99.61	99.39	99.05	98.81	99.86	100.00	99.97	99.83	99.87	100.00	97.78	99.96	99.51
	-58236	VDA	97.50	100.00	99.89	100.00	99.99	100.00	99.38	96.90	99.98	99.98	97.78	100.00	99.28
Pasadena WSC	-58237	VDA	99.62	99.58	99.81	100.00	100.00	100.00	99.94	99.91	100.00	100.00	97.78	100.00	99.72
	-58490	VDA	100.00	99.81	99.70	99.81	100.00	100.00	99.89	100.00	100.00	99.94	99.96	99.97	99.92
	-58491	VDA	99.23	99.69	99.91	98.70	100.00	100.00	99.90	100.00	97.13	100.00	100.00	100.00	99.55
Pasadena WSC	-58532	DIB	99.20	99.48	99.94	97.77	99.94	99.49	99.75	100.00	100.00	99.56	100.00	99.37	99.54
	-58620	VDA	99.74	98.94	99.27	97.35	99.97	100.00	100.00	99.91	100.00	100.00	97.78	99.79	99.40
	-58623	VDA	99.92	98.97	96.18	99.23	99.94	100.00	100.00	99.83	99.96	99.75	97.78	99.61	99.26
Pasadena WSC	-58624	DIB	99.84	98.43	99.45	96.09	100.00	100.00	100.00	99.91	100.00	99.61	97.78	99.78	99.24
	-58666	VDA	99.57	100.00	98.27	99.96	100.00	100.00	99.34	100.00	98.44	100.00	100.00	100.00	99.63
	-58667	VDA	99.71	99.96	98.65	99.56	99.43	100.00	99.90	100.00	99.37	99.89	99.79	100.00	99.69
Pasadena WSC	-58687	VDA	100.00	99.14	99.52	99.85	100.00	100.00	100.00	99.80	100.00	99.94	97.78	100.00	99.67
	-58692	VDA	99.71	100.00	100.00	99.60	100.00	100.00	100.00	100.00	100.00	100.00	100.00	95.28	99.55
	-58694	VDA	99.00	99.82	99.28	99.82	99.94	100.00	100.00	99.95	99.96	99.57	97.78	99.79	99.58
Pasadena WSC	GP-58301	VCC	0	0	0	0	0	0	0	0	0	0	0	0	99.81
	-58435	VCC	100.00	100.00	100.00	100.00	100.00	100.00	99.97	99.09	100.00	100.00	100.00	100.00	99.92
	-58476	VCC	98.73	99.86	100.00	99.46	100.00	99.97	99.50	99.60	100.00	99.76	97.78	99.84	99.54

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE	LONG											
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983
Pasadena WSC via SATCOM	Q400-5372	WDD	99.72	100.00	100.00	99.81	99.63	99.93	99.40	99.45	99.76	98.37	99.34	98.90
	-8021	WDD	99.57	99.93	100.00	99.40	100.00	99.94	99.33	99.64	99.58	98.27	99.09	100.00
	-8022	WDD	99.80	99.93	100.00	99.69	99.19	99.69	99.66	99.85	100.00	98.48	99.42	100.00
Pasadena WSC/Houston (JSC)	Q4A-59151	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59152	VDA	100.00	99.44	100.00	100.00	100.00	100.00	99.48	100.00	100.00	100.00	100.00	100.00
Patrick AFB/Houston (JSC)	Q4A-58842	VDA	0	0	0	0	100.00	100.00	90.44	100.00	100.00	100.00	99.86	100.00
	-59155	VDA	100.00	100.00	100.00	0	0	0	0	0	0	0	0	100.00
Platteville (MOBAS)/Pasadena WSC	Q4A-58989	TTY	100.00	100.00	100.00	100.00	99.24	100.00	0	0	0	0	0	99.87
Ponce De Leon (FLL)/Merritt Island (MIA)	ALAP-27004	VDA	100.00	99.38	100.00	99.33	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89
	-87005	VDA	100.00	100.00	100.00	99.33	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.94
	-87006	VDA	100.00	100.00	100.00	99.33	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.94
	-87007	VDA	100.00	100.00	100.00	99.33	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.94
	TTDP-87209	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	W404-87252	VID	100.00	100.00	100.00	100.00	100.00	100.00	99.60	100.00	100.00	100.00	100.00	99.97
	VT04-54501	VID	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-87251	VID	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Quincy (MOBAS)/Pasadena WSC	70R-357	TTY	100.00	99.67	96.83	100.00	100.00	99.90	0	0	0	0	0	99.40
Quito via Kram (IS IV A P-1)	Q4A-58150	VDA	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVG
Rebordo Beach (TWA CTW)	CD-58281	DDG	0	0	0	0	0	0	0	0	100.00	100.00	100.00	99.47	99.87
	-58905	DAT	0	0	97.72	99.66	0	0	0	0	0	0	0	0	98.69
	-58906	DDG	0	0	98.26	100.00	0	0	0	0	0	0	0	0	99.13
	CP-58233	VOC	0	0	0	0	0	0	0	0	100.00	100.00	98.79	99.88	99.67
	-58903	VOC	0	0	100.00	100.00	0	0	0	0	0	0	0	0	100.00
Riverdale (Sperry-Univac)	7AFD-7146	DDG	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Nota NE/Mark II	XPBR-1	VOC	0	100.00	100.00	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Santiago via Etam	GM-58454	VDA	0	100.00	100.00	0	0	99.93	99.26	100.00	99.63	99.86	100.00	99.86	99.84
(US IV A F-1)	-58471	VDA	99.87	99.97	99.59	100.00	99.97	99.69	100.00	99.93	100.00	100.00	99.72	100.00	99.90
	-58831	VDA	99.90	99.77	100.00	100.00	99.99	99.93	99.79	100.00	100.00	99.97	99.70	99.93	99.92
Santiago via Etam (WESTAR & IS IV A F-3)	L-1329	WED	98.95	100.00	99.79	99.90	99.92	99.67	99.64	100.00	99.74	100.00	100.00	99.35	99.75
	WU-190-R	WED	0	100.00	99.74	0	0	99.59	100.00	100.00	100.00	100.00	100.00	99.39	99.86
	-191-T	WED	0	100.00	100.00	0	0	99.95	100.00	100.00	100.00	100.00	100.00	99.45	99.93
Sioux Falls (EHOS)	CD-58420	DDG	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.25	100.00	97.93	99.94	97.66	99.57
	GM-58421	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.86	100.00	100.00	99.58	99.95
Sioux Falls (EHOS) via SATCOM	GM-8045-T	WED	100.00	100.00	100.00	100.00	98.21	100.00	100.00	100.00	100.00	99.66	99.10	100.00	99.75
	GM-8044-T	WED	100.00	100.00	100.00	100.00	98.21	100.00	100.00	100.00	100.00	99.66	99.10	100.00	99.75

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV

NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE OF SVC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM NOTE
Suitland (NOMA)	70FD-1056	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-1140	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	70ED-818	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	70CL-7052	VOC	100.00	100.00	97.03	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.72	100.00	99.73
	-7053	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	74FD-7138	DOS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-7139	DOS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	74CL-5037	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	74OT-321	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	74CD-1284	VFX	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Suitland (NOMA)/GSEC (Bldg 23)	CD-58544	DAT	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Suitland (NOMA)/Wallapa Island	GDA-6299	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Sunnyvale (AFSCF)	-6302	VOC	100.00	100.00	100.00	100.00	98.82	97.42	100.00	100.00	100.00	100.00	100.00	99.93	99.68
	-6303	VOC	100.00	100.00	100.00	100.00	99.76	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.95
Sunnyvale (AFSCF) via SARUM	GMD-8073	MID	99.65	99.94	100.00	98.90	98.72	99.85	100.00	99.73	99.38	100.00	99.78	99.83	99.65
	-8074	MID	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunnyvale (AFSCF)/Houston (JSC)	GP-59199	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.86	99.99
Sunnyvale (AFSCF)/Pasadena WSCC	70P-354	TTY	100.00	99.85	100.00	100.00	100.00	100.00	99.74	100.00	99.33	100.00	98.68	99.64	99.77

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE OF SNC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVG
Tulouse (WES)/Madrid	TOTR-1	TTY	99.98	98.22	99.79	99.91	100.00	100.00	100.00	100.00	100.00	99.66	99.85	99.70	99.76
	KPM-101	VDA	0	0	0	0	100.00	100.00	100.00	100.00	99.97	100.00	100.00	99.81	99.97
	-102	VDA	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.88	99.99
Valley Forge (King of Prussia)	GDA-58691	VDA	0	0	0	0	0	0	0	0	0	0	100.00	0	100.00
	-58699	VDA	0	0	0	0	0	0	0	0	0	0	97.56	0	97.56
	DSM-59219	WDD	100.00	0	0	0	0	0	0	0	0	0	0	0	100.00
Vandenberg AFB (WESMC)	DND-58644	DUS	0	100.00	99.87	0	0	0	0	0	0	0	0	0	99.94
	-58645	WDD	0	0	0	0	0	0	0	0	95.78	100.00	0	0	97.89
	GD-58380	DAT	0	0	0	0	0	0	0	0	0	0	0	0	0
	-58589	DAT	0	0	0	0	0	0	0	0	0	0	0	0	0
	GDA-58405	DUS	100.00	100.00	100.00	100.00	100.00	100.00	99.84	100.00	100.00	99.43	100.00	100.00	99.94
	-58458	DUS	100.00	100.00	100.00	100.00	100.00	100.00	99.56	99.80	100.00	99.65	99.92	100.00	99.91
	-58469	DUS	100.00	100.00	100.00	100.00	100.00	99.97	99.90	99.84	100.00	98.84	100.00	100.00	99.88
Vandenberg AFB (WESMC)/El Paso (PAA)	GDA-59195	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
	-59196	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0
	-59197	VDA	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVG
Vandenberg AFB (NSWC)/Pasadena	GDA-58721	VNA	100.00	100.00	97.51	100.00	100.00	100.00	100.00	100.00	95.26	100.00	99.53	100.00	99.36
WCSL	-58722	VNA	100.00	100.00	97.74	100.00	100.00	100.00	98.50	100.00	100.00	100.00	100.00	99.79	99.67
	-58723	VNA	100.00	100.00	97.56	100.00	100.00	100.00	98.19	100.00	100.00	100.00	100.00	100.00	99.65
	GP-58248	VOC	100.00	99.49	100.00	100.00	100.00	100.00	100.00	100.00	99.72	100.00	100.00	99.89	99.93
	-58737	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58790	VOC	100.00	100.00	100.00	99.96	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89	99.99
	-58791	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58792	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58793	VOC	99.82	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
	20T-41	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	7ED-1364	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.69	100.00	99.56
	-1365	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	88.88	100.00	99.76	94.69	100.00	98.61
	-1366	TTY	100.00	100.00	100.00	99.44	100.00	100.00	100.00	100.00	100.00	100.00	83.69	100.00	98.59
	-1367	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.69	100.00	99.56
	-1368	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.69	100.00	99.56

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	MODE OF SVC	LONG TERM AVERAGE											
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983
Vandenberg AFB (NSAC)/Pasadena	7ED-1374	TTY	100.00	100.00	100.00	100.00	100.00	100.00	99.67	100.00	100.00	100.00	94.43	100.00
WSSC (Cont)	-1379	TTY	100.00	100.00	100.00	100.00	100.00	100.00	99.96	100.00	100.00	100.00	94.43	100.00
	-1380	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.69	100.00
	DEPW-1	VDA	100.00	100.00	100.00	99.91	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.88
Villafranca (Villapa)/Madrid	-2	VDA	100.00	100.00	100.00	99.91	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.88
	-3	VDA	0	0	0	0	0	0	0	0	0	0	0	99.87
	-4	VDA	0	0	0	0	0	0	0	0	0	0	0	99.87
	GDN-58299	VDA	99.80	99.96	100.00	100.00	99.86	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Malique Island	-58401	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.95
	-58427	VDA	100.00	100.00	100.00	99.16	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.93
	-58540	VDA	100.00	100.00	100.00	99.91	100.00	100.00	99.94	100.00	100.00	99.43	98.92	100.00
	-58541	VDA	100.00	99.59	100.00	100.00	99.56	100.00	99.35	100.00	100.00	100.00	100.00	99.88
	-58986	VOC	100.00	99.91	100.00	0	0	0	0	0	0	0	0	99.97
	-58987	VDA	100.00	100.00	100.00	0	0	0	0	0	0	0	0	100.00
	-58988	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	NSP-3313	TTY	100.00	99.54	99.75	99.48	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.90
	-3314	TTY	100.00	99.54	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.96

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE OF SVC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVGE
Washington D.C. (ISOC)	748D-7248	DXT	0	0	0	0	0	0	0	0	0	0	0	97.11	97.11
	-7249	VDA	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	748L-25139	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-25277	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-42809	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-42810	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-42811	VOC	0	0	0	0	0	0	0	0	0	0	99.29	100.00	99.65
	-42812	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-42813	VOC	0	0	0	0	0	0	0	0	0	0	0	100.00	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	NOTE OF SVC	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVG
Washington D.C. (COMSEC Launch Control Center)	74FD-7230	IDS	100.00	100.00	0	0	0	0	100.00	0	0	0	0	0	100.00
	-7232	IDS	0	0	0	0	0	0	100.00	0	0	0	0	0	100.00
	-7233	IDS	0	0	0	0	0	0	100.00	0	0	0	0	0	100.00
	-7234	IDS	0	0	0	0	0	0	100.00	0	0	0	0	0	100.00
	-7235	IDS	0	0	0	0	0	0	100.00	0	0	0	0	0	100.00
	-7236	IDS	0	0	0	0	0	0	100.00	0	0	0	0	0	100.00
	74PL-42802	VOC	0	0	0	0	96.85	0	0	0	0	0	0	0	96.85
	-42803	VOC	0	0	0	0	97.96	0	0	0	0	0	0	0	97.96
	-42804	VOC	0	0	0	0	100.00	0	0	0	0	0	0	0	100.00
	-42805	VOC	0	0	0	0	0	0	0	0	0	0	0	0	0
	-42806	VOC	0	0	0	0	97.96	0	0	0	0	0	0	0	97.96
Washington D.C. (Dept of State)	74PL-26469	VOC	100.00	100.00	100.00	100.00	91.97	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.33
	-26470	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-26471	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Washington D.C. (NASA HQ)	74AP-5128	VOC	0	0	0	0	0	0	0	0	99.96	100.00	6	0	99.96
	-5129	VOC	0	0	0	0	0	0	0	0	0	0	99.92	100.00	99.96

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE OF SVC	LONG											
			MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983
Washington D.C. (NASA HQ) (Cont)	7408-237	WID	0	0	0	0	0	0	0	0	0	0	0	100.00
	7408-95	VOC	0	0	0	0	0	0	0	0	0	0	0	0
	-827-T	VOC	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-828-T	VOC	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-3202-T	VOC	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-25296-T	VOC	100.00	100.00	100.00	100.00	100.00	100.00	99.54	100.00	100.00	100.00	98.79	85.51
	7408-25131	VOC	0	0	0	0	0	0	0	0	0	0	96.36	100.00
	-25132	VOC	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	-25350	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-26483	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-42814-T	VOC	0	0	0	0	0	0	0	0	0	0	99.20	100.00
	-42815-T	VOC	0	0	0	0	0	0	0	0	0	0	100.00	100.00
	7408-5128	VTD	0	0	0	0	0	0	0	0	97.30	100.00	100.00	99.33
	7408-26486	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Washington D.C. (White House)	DFPM-1	VDA	98.66	100.00	100.00	99.91	100.00	100.00	99.66	99.91	99.67	99.41	100.00	0
Wessling (GSOXX)/Madrid	TCFR-1	TTY	100.00	98.27	99.99	99.91	100.00	99.87	100.00	99.73	97.95	99.66	96.19	99.39
	XPMM-1	VDA	100.00	92.11	99.22	100.00	100.00	100.00	99.95	99.64	98.32	99.72	100.00	0

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TERMINATING STATION	CIRCUIT NUMBER	NOTE	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983	APR 1983	LONG TERM AVERAGE
Houston (SPAR)/Houston (JSC)	GP-59313	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-59314	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
White Sands (THRES/NOV)	GD-58496	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.67	100.00	100.00	99.81	100.00	99.96
	GDA-58578	VDA	0	0	0	0	0	100.00	100.00	99.55	100.00	100.00	100.00	99.46	99.86
	-58890	VDA	0	0	0	99.94	100.00	99.15	99.25	100.00	100.00	99.64	99.88	99.50	99.71
	-58891	VDA	0	0	0	99.94	100.00	100.00	99.18	100.00	100.00	99.56	99.83	99.15	99.74
	GP-58487	VOC	99.88	99.63	100.00	99.95	99.67	100.00	99.10	98.54	100.00	100.00	99.83	98.36	99.58
	-58618	VOC	0	0	0	0	0	100.00	99.29	99.88	100.00	100.00	99.65	99.49	99.76
	-58619	VOC	0	0	0	0	0	100.00	99.29	100.00	100.00	100.00	99.82	99.53	99.81
	-58887	VOC	0	0	0	0	100.00	99.98	99.25	100.00	99.96	99.64	99.88	98.89	99.70
	-58888	VOC	0	0	0	0	100.00	99.40	99.25	100.00	100.00	99.64	96.39	98.80	99.19
	-58889	VOC	0	0	0	0	100.00	100.00	99.29	99.87	95.87	99.64	99.87	98.63	99.15
	GT-58220-T	TTY	0	0	0	0	99.48	100.00	100.00	98.73	100.00	100.00	100.00	100.00	99.90

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE	LONG											
			APR 1982	MAY 1982	JUN 1982	JUL 1982	AUG 1982	SEP 1982	OCT 1982	NOV 1982	DEC 1982	JAN 1983	FEB 1983	MAR 1983
White Sands (TUSSE/NOT) via SATCOM	GMD-8079	VIA	0	99.22	99.92	100.00	99.93	100.00	99.97	99.94	0	100.00	99.75	100.00
	-8192	VIA	0	0	0	0	0	0	0	0	0	100.00	99.61	100.00
	GMD-8077	VOC	100.00	94.27	99.97	99.94	99.86	100.00	99.45	100.00	99.90	100.00	99.70	100.00
	-8078	VOC	100.00	94.25	99.99	99.81	99.97	99.88	99.97	99.93	99.94	100.00	99.75	100.00
	-8193	VOC	0	0	0	0	0	0	0	0	100.00	100.00	99.75	100.00
	-8194	VOC	0	0	0	0	0	0	0	0	99.80	99.97	99.67	99.85
White Sands (TUSSE/NOT)	GMD-8016	WID	99.95	100.00	99.65	99.32	99.57	100.00	99.91	99.28	99.61	100.00	99.62	100.00
	GMD-8015	WID	99.91	100.00	100.00	99.73	99.82	99.65	99.60	99.92	99.95	99.56	0	99.83
	GMD-8211	WID	0	0	0	0	0	0	0	0	0	0	97.35	97.35
White Sands (NOT) & Houston (JSC) Broadcast	GFX-8208	WID	0	0	0	0	0	0	0	0	0	0	0	0
	GMD-8015	WID	0	0	0	0	0	0	0	0	0	0	0	99.90
White Sands (TUSSE/NOT) via SATCOM	CD-58872	TTY	100.00	100.00	0	0	0	0	0	0	0	0	0	100.00
	-58927-T	TTY	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	94.81	100.00
	GDA-58975	VIA	100.00	99.85	100.00	100.00	100.00	100.00	99.94	100.00	100.00	100.00	100.00	99.98
White Sands (NOT)	GT-58595	TTY	0	0	0	0	0	0	100.00	96.15	100.00	99.58	99.75	100.00
														99.35

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	NOTE	MONTH												LONG TERM AVERAGE
			MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	
White Sands (NSMRS)/Houston (JSC)	GD-59465	TTY	0	0	0	0	0	0	97.60	100.00	100.00	100.00	100.00	100.00	99.60
	GD-58870	VDA	0	0	0	0	100.00	100.00	99.70	100.00	100.00	100.00	100.00	100.00	99.96
	-58871	VDA	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58978	VDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-58980	VDA	100.00	99.91	100.00	100.00	97.41	100.00	96.50	100.00	100.00	100.00	100.00	100.00	99.49
	-59038	VDA	100.00	99.95	100.00	0	0	0	0	0	0	0	0	0	99.98
	-59039	VDA	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59040	VDA	100.00	99.77	100.00	0	0	0	0	0	0	0	0	0	99.92
	GP-58445	VOC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	87.15	100.00	98.93
	-58633	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-58634	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-58635	VOC	100.00	99.91	100.00	0	0	0	0	0	0	0	0	0	99.97
	-58636	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-58637	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-58874	VOC	0	0	0	0	100.00	100.00	99.70	100.00	100.00	100.00	100.00	100.00	99.96
	-58875	VOC	0	0	0	0	100.00	100.00	99.63	100.00	100.00	100.00	99.94	100.00	99.95

NOTE: 0 = Unobtainable data or the circuit was deactivated.

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	NOTE	MONTH												LONG TERM	
			SAC	MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	APR 1963	AVG 1963
White Sands (NWSR) Houston (JSC Cont.)	GP-59454	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59455	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	99.91	100.00	99.99
	-59456	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	99.40	99.91	99.89
	-59457	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	87.60	100.00	97.83
	-59458	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59459	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	99.68	100.00	99.95
	-59460	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59461	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	-59462	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	87.09	100.00	97.85
	-59463	VOC	0	0	0	0	0	0	0	100.00	100.00	100.00	100.00	100.00	100.00	100.00
White Sands (NWSR) BRSLP)	-59464	VOC	0	0	0	0	0	0	0	100.00	100.00	0	0	100.00	99.95	99.99
	CDTU-800026-T	WED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
White Sands (NWSR)/Vandenberg APB (NWSR)	TUCD-800025-R	WED	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	GP-59201	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59202	VOC	100.00	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00

NOTE: 0 = Unobtainable data or the circuit was deactivated.

ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IV
NASCOM NETWORK CIRCUIT AVAILABILITIES (CONT'D)

TRANSMITTING STATION	CIRCUIT NUMBER	MODE	MONTH												LONG TERM AVERAGE
			APR 1962	MAY 1962	JUN 1962	JUL 1962	AUG 1962	SEP 1962	OCT 1962	NOV 1962	DEC 1962	JAN 1963	FEB 1963	MAR 1963	
Yarragadee (Palmer)/Canberra	MCY-601	TTY	100.00	100.00	100.00	99.87	99.80	99.90	100.00	99.92	100.00	100.00	100.00	99.90	99.80
	MCY-601	VIA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.89
	-602	VIA	100.00	100.00	100.00	100.00	99.41	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.94
	GP-590311	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59032	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59284	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59285	VOC	100.00	99.91	99.87	0	0	0	0	0	0	0	0	0	99.93
	-59286	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59288	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59290	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59291	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00
	-59296	VOC	100.00	100.00	0	0	0	0	0	0	0	0	0	0	100.00

NOTE: 0 = Undetectable data or the circuit was deactivated.

CIRCUITS WITH LOW AVAILABILITIES

GWDD-5372, Pasadena via Satcom.

The circuit has not met the network objective for the last six consecutive months. The wideband link had 3 interruptions in April totalling 7:53 hours. A large percentage of outages are attributed to leased system faults in the Pasadena area. For the last 6 months the average availability of -5372 is 99.20%. During this period there have been 20 CMA's and a MTTRs of 1.69 hours.

TGFR-1, Wessling/Madrid.

The teletype link has failed to surpass the objective for five consecutive months. Its 12 month long term mean is 99.25% which shows sub-standard operational capabilities. Historical maintenance data indicates that carrier problems exist on the Madrid/Frankfurt segment. The circuit achieved a 99.39% availability in April showing 5 CMA's and 4:24 outage hours.

GDA-58269, Moffett/Pasadena.

The narrowband circuit has exhibited four consecutive months of low availability. One outage occurred in April for 17:35 hours due to a foreign tone on the line. The problem was cleared while in the process of checking. Its 12 month long term mean is 99.31%. The circuit has shown a small number of interruptions however the restoration times appear lengthy.

GDA-58379, Moffett/Pasadena.

There were two outages in April for 3:30 hours and a calculated availability of 99.51%. It has not met the 99.80% objective for four consecutive months. It appears that the circuit has frequent high bit error rates and cannot be isolated to segment or system. It is suggested that tests be conducted to determine its operational characteristics.

SELECTED CIRCUIT ANALYSIS

ORIGINAL PAGE IS
OF POOR QUALITY

Introduction

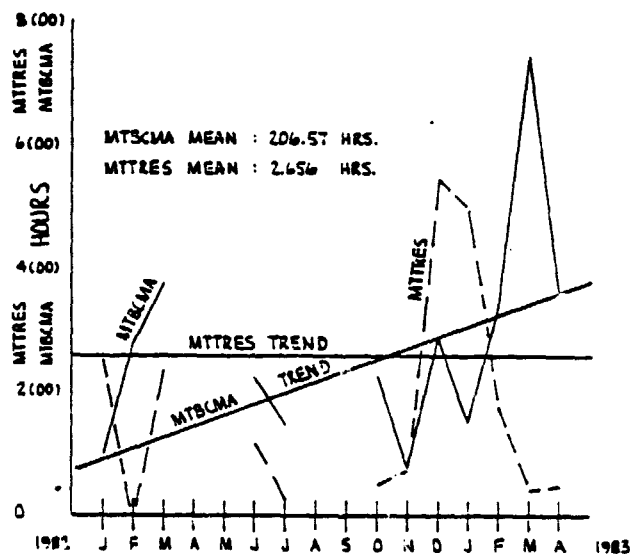
In this section the Network Review and Analysis Group has presented selected circuits that have expressed low availability parameters aperiodically. The long term availability, corrective-maintenance-actions (CMA's), and extended outage hours were used in determining its special presentation and analysis. The individual circuits shown in this section were found to be contributing agents that affected the overall NASCOM Network Availability trend, shown in Figure 2, and include respective statistics on predominant failure categories. These circuits either failed to meet the NASCOM network objective of 99.80% or the networks MTRES of 2.92 hours, or both. In addition, a Chi Square Distribution was used (point estimate) using a 50% confidence limit and 2 degrees of freedom when the circuit had operational hours but experienced no (CMA's) for that month. Future reports will present selected circuits that fail to meet established standards or have deteriorating operational characteristics.

GDA-58506. Canberra via Jamesburg

The data shown in the table presents failure activity for 16 months, January 1982 through April 1983. The link did not support network operations during April, May, August, and September 1982. There were 6496.0 operational hours, 31 CMA'S, and 61:54 outage hours. The circuit's 16 month mean-time-to-restore (MTTRES) is 1.996 hours and is better than the networks' baseline of 2.92 hours.

The statistics were gathered in an attempt to isolate problem areas due to aperiodic low availabilities. The circuit has failed to meet the network objective eight of the twelve months and has established an aggregate low parameter of 99.05% which indicates a condition not suitable for mission support. Since January 1982, twenty of the thirty-one CMA's are attributed to the Australian region and another three on the GSFC/San Francisco segment.

Data was plotted from the statistics in the table and is presented in graphical form. Both trends appear favorable for the 16 month period excluding 4 months that were not plotted. The restore mean (during its 12 month operation) of 2.656 hours is better than the established baseline aforementioned.



GDA-58506: MTSCMA AND MTRES TRENDS.

GDA-58506, CANBERRA via JAMESBURG

ORIGINAL PAGE IS
OF POOR QUALITY

MO./YR.	OP. HOURS	CMA's	MTBCMA	OUT. HOURS	MTRES	AVAIL.
JAN 82	480.0	5	96.0	12:30	2.50	97.40
FEB 82	192.0	0	277.05	0	0	100.00
MAR 82	744.0	2	372.0	4:42	2.35	99.37
APR 82						
MAY 82						
JUN 82	672.0	3	224.0	3:38	1.211	99.46
JUL 82	144.0	1	144.0	0:14	.2333	99.84
AUG 82						
SEP 82						
OCT 82	664.0	3	221.33	1:26	.4777	99.78
NOV 82	432.0	6	72.0	4:30	0.75	98.96
DEC 82	288.0	1	288.0	5:24	5.40	98.13
JAN 83	744.0	5	148.8	24:36	4.92	96.69
FEB 83	672.0	2	336.0	3:31	1.758	99.48
MAR 83	744.0	1	744.0	0:26	.4333	99.94
APR 83	720.0	2	360.0	0:57	.475	99.87
	6496.0	31	209.55	35:54	61.54	1.996

CALCULATE

BASELINE

TROUBLE CATEGORIES LOST TIME AND EVENTS

A	B	C	D	E	F	G	M	N	P	OUTAGE	AVAIL
2	12	11	1	1		1			3	31	
1:55	44:18	10:27	1:36	0:05		2:52			0:41	61:54	

EVENTS

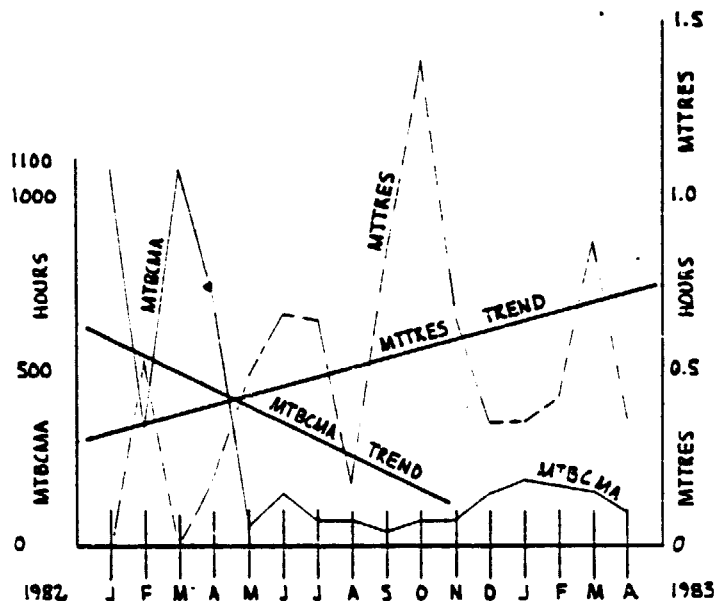
LOST TIME

GDA-58652, Madrid via TAT-6 Cable

The circuit was analyzed over a 16 month period, January 1982 through April 1983, in an attempt to identify areas of concern. The table shows 11633.0 operational hours for this interval, 64:13 total outage hours, and a significant amount of interruptions, 101. It has failed to meet the network availability objective the last 12 consecutive months and has a 16 month availability baseline of 99.44%. In spite of the number of interruptions the baseline mean-restore-time of 0.639 hours reflects expedient restorative actions. Of the total CMA's (101) documented during this period, 57 (56.43%) were classified B-outages, Leased Systems Fault.

Further analysis, since January 1982, reveals the following data. Of the 101 CMA's 78 were in Spain; 39 of the 78 were at Madrid; 29 of the 78 were cut coaxial cables or cable problems in Spain; and 24 of the 101 were cleared-while-checking. Of the 24, 12 of 12 were cleared in Spain when GSFC's receive path was a reported open condition.

Also presented is a graphical interpretation of the data shown in the table. The restore-trend over the 16 month interval is not a major concern because all plots are below the network baseline. The significance of this graph are the MTBCMA plots, respectively. The circuit has exhibited an unfavorable performance level since May 1982; for the past 12 months; and it is recommended that -58652 be deactivated and replaced with a more reliable TAT.



GDA-58652: MTBCMA AND MTTRES TRENDS.

ORIGINAL PAGE IS
OF POOR QUALITY

GDA-58652, MADRID via TAT-6

MO./YR.	OP. HOURS	CMA's	MTBCMA	OUT. HOURS	MTRES	AVAIL.
JAN 82	744.0	0	1073.59	0	0	100.00
FEB 82	672.0	2	336.0	1:04	.5333	99.84
MAR 82	744.0	0	1073.59	0	0	100.00
APR 82	720.0	1	720.0	0:11	.1833	99.97
MAY 82	744.0	11	67.636	5:19	.4833	99.29
JUN 82	717.0	5	143.4	3:20	.666	99.54
JUL 82	744.0	10	74.4	6:24	.640	99.14
AUG 82	744.0	10	74.4	1:50	.183	99.75
SEP 82	720.0	17	42.353	13:59	.8225	98.06
OCT 82	744.0	10	74.4	13:52	1.386	98.14
NOV 82	720.0	10	72.0	6:26	.6433	99.11
DEC 82	740.0	5	146.0	1:45	.350	99.76
JAN 83	744.0	4	18.0	1:28	.3666	99.33
FEB 83	672.0	4	168.0	1:41	.4208	99.75
MAR 83	744.0	5	148.8	4:22	.8733	99.41
APR 83	720.0	7	102.86	2:32	.362	99.65
CALCULATE	11633.0	101	115.18	64:13	0.639	99.44
						BASELINE

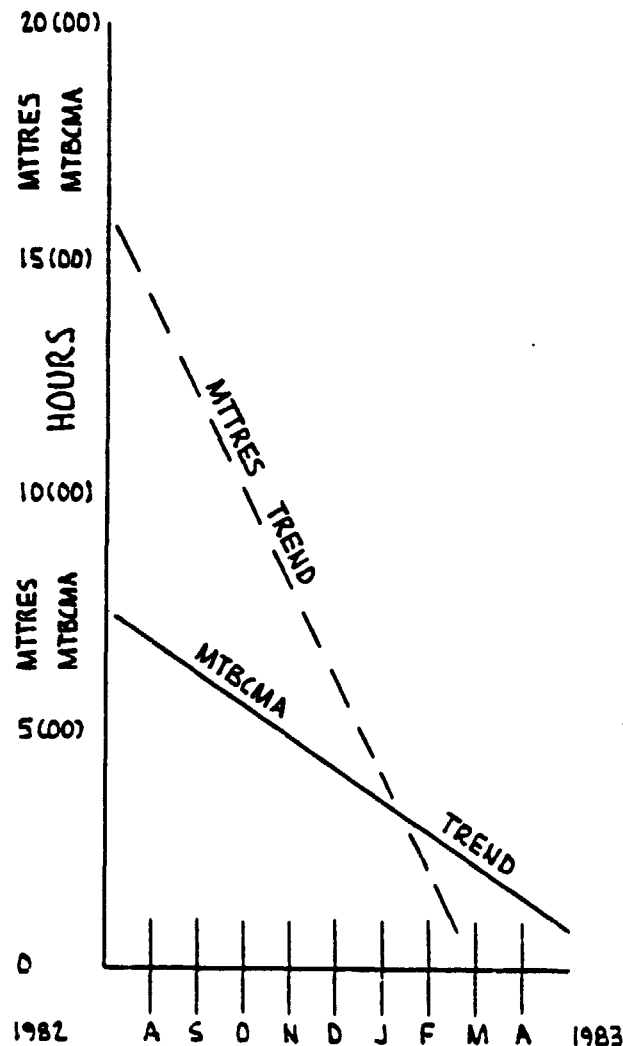
TROUBLE CATEGORIES LOST TIME AND EVENTS

A	B	C	D	E	F	G	M	N	P	OUTAGE	AVAIL
7	57	27	1	4			5			101	
2:02	42:17	13:36	0:35	2:23			3:20			64:13	
											EVENTS
											LAST TIME

WUI-186, Chilton (IRAS CC)

The wideband circuit GSFC/Chilton has been in operation since August 1982. An analysis was performed because -186 has exhibited aperiodic low availabilities and a 9 month 97.55% availability mean. It has logged 6480.0 operational hours, 28 CMA's, and 158:39 outage hours. The overall mean-restore-time is 5.66 hours which is worse than the established 24 month parameter. Outage hours within category B; commercial carrier System Faults; represent 64.10% of the total lost time. The single interruption in September 1982 of 47:34 hours was a result of a faulty line in Chilton, England. Other failures, since August 1982, indicate that equipment problems exist on the Mondial-Madley-Didicott segments and satellite interference anomalies which impede data throughput.

Also presented is a graph depicting the MTBCMA and MTTRES trends. Of particular concern is the unfavorable MTBCMA trend. It appears that the trend will not reverse until there is a higher equipment reliability in the European area.



WUI-186 : 9 MONTH
MTBCMA AND MTTRES TRENDS.

WUI-186, CHILTON (IRAS CC)

ORIGINAL PAGE IS
OF POOR QUALITY

MO./YR.	OP. HOURS	CMA's	MTBCMA	OUT. HOURS	MTTRES	AVAIL.
JAN 82						
FEB 82						
MAR 82						
APR 82						
MAY 82						
JUN 82						
JUL 82						
AUG 82	672.0	43	168.0	7:30	1.883	98.88
SEP 82	720.0	1	720.0	47:34	47.566	93.39
OCT 82	744.0	1	744.0	4:35	4.583	99.38
NOV 82	720.0	0	1083.96	0	0	100.00
DEC 82	744.0	0	1073.59	0	0	100.00
JAN 83	744.0	4	186.8	29:34	7.40	96.03
FEB 83	672.0	6	112.0	26:23	4.397	96.07
MAR 83	744.0	8	93.0	30:25	3.8023	95.91
APR 83	720.0	4	180.0	180:0	3.158	98.25
	6480.0	28	231.43	158:39	5.666	97.55

CALCULATE

BASELINE

TROUBLE CATEGORIES LOST TIME AND EVENTS

A	B	C	D	E	F	G	M	N	P	OUTAGE	AVAIL
2	11	9	3			3				28	
3:55	101:42	37:01	7:12			8:49				158:39	

EVENTS

LOST TIME

Table V
Network Lost Time By Trouble Category

TROUBLE CATEGORIES	MAY 1982	JUNE 1982	JULY 1982	AUGUST 1982	SEPTEMBER 1982	OCTOBER 1982
A - Undetermined	29:32	39:49	18:58	45:19	49:53	37:42
B - Leased System Fault	176:45	346:09	185:29	508:43	564:31	376:04
C - Carrier Control Time	56:34	290:52	231:40	129:14	143:24	175:43
D - Government Personnel	157:35	75:02	23:09	22:18	7:13	21:54
E - Government Equipment	114:25	206:19	153:33	47:45	3:43	3:43
F - Government Facilities	-	-	18:02	-	-	-
G - R F Anomalies	2:50	83:55	23:05	5:24	21:40	15:49
M - Man-Made Damage	-	2:57	30:19	24:2'	29:59	-
N - Acts of Nature Damage	-	:45	24:02	-	:48	52:46
P - Electrical Power	9:54	1:34	:29	40:35	25:08	7:44
TOTAL LOST TIME	547:35	1047:22	708:37	823:42	846:19	715:00
SCHED OPER HOURS	409937:01	418271:26	386098:48	356649:57	362814:52	438771:59
AVAILABILITY Percent	99.86	99.75	99.82	99.77	99.77	99.84

TROUBLE CATEGORIES	NOVEMBER 1982	DECEMBER 1982	JANUARY 1983	FEBRUARY 1983	MARCH 1983	APRIL 1983
A - Undetermined	29:18	48:05	37:00	21:27	158:06	41:53
B - Leased System Fault	741:45	533:26	691:56	623:27	1148:48	760:49
C - Carrier Control Time	357:38	110:26	366:51	179:23	327:32	206:57
D - Government Personnel	3:33	9:41	15:46	3:41	1:44	-
E - Government Equipment	27:18	9:06	3:04	18:29	130:50	6:11
F - Government Facilities	-	-	-	-	-	14:02
G - R F Anomalies	13:05	:48	3:11	31:13	10:54	24:12
M - Man-Made Damage	41:51	-	-	108:50	18:43	3:02
N - Acts of Nature Damage	489:33	128:51	35:39	134:09	711:55	51:51
P - Electrical Power	53:56	13:05	15:52	4:00	20:53	4:50
TOTAL LOST TIME	1739:45	847:26	1184:44	1108:30	2529:25	1113:47
SCHED OPER HOURS	425796:37	433023:13	450948:15	406790:09	457067:22	449465:46
AVAILABILITY Percent	99.59	99.80	99.74	99.73	99.45	99.75

Table VI
Network Circuits By Mode for One Year*

MONTH	TELE- TYPE	ANALOG VOICE GRADE	ANALOG ALTERNATE VOICE/ DATA	ANALOG NARROW- BAND DATA	FAC- SIMILE	ANALOG WIDE- BAND DATA	DIGITAL NARROW- BAND DATA	DIGITAL WIDE- BAND DATA	VIDEO
May 1982	58	200	208	16	2	14	19	44	5
June 1982	59	210	215	16	2	14	20	53	5
July 1982	57	194	211	17	2	14	20	54	5
August 1982	56	142	193	17	2	14	22	42	5
September 1982	56	197	209	16	2	14	21	42	5
October 1982	58	211	218	18	2	14	22	55	5
November 1982	55	226	216	18	2	14	24	56	5
December 1982	54	212	214	18	2	14	23	54	5
January 1983	56	222	219	14	2	4	28	60	5
February 1983	55	225	217	14	2	14	29	60	5
March 1983	54	238	211	11	2	14	36	59	5
April 1983	54	248	193	13	2	14	52	65	5

* The definition of these modes are defined in the FY 83-1 Nascom System Development Plan (NSDP)

Table VII
Network Statistics for One Year

MONTH	NUMBER OF STATIONS	TOTAL CIRCUITS	TOTAL CKTS WITH LOST TIME	CIRCUITS BELOW OBJECTIVE	TOTAL INTER- RUPTIONS	MEAN TIME TO RESTORE
May 1982	130	566	132	78-14%	315	1:44
June 1982	133	594	199	115-19%	473	2:13
July 1982	131	574	147	101-18%	374	1:54
August 1982	135	493	150	94-19%	373	2:12
September 1982	134	562	144	89-16%	343	2:28
October 1982	138	603	135	75-12%	384	1:52
November 1982	136	616	197	124-20%	468	3:43
December 1982	132	596	134	81-13%	274	3:06
January 1983	139	620	162	89-14%	359	3:18
February 1983	138	621	155	99-16%	334	3:32
March 1983	139	630	217	156-25%	390	6:29
April 1983	140	646	188	101-16%	446	2:30

ORIGINAL PAGE IS
OF POOR QUALITY

	'B' OUTAGE HRS.	'B' INTERRUPTIONS	MTTRES
J	223:48	75	2.984
F	147:20	72	2.0463
M	267:08	100	2.6713
A	180:42	72	2.5097
M	176:45	113	1.5641
J	346:09	142	2.4376
J	185:29	122	1.5203
A	508:43	203	2.5059
S	564:31	153	3.6896
O	376:04	173	2.1738
N	741:45	238	3.1166
D	533:26	155	3.4415
J	691:56	186	3.7200
F	623:27	155	4.0222
M	1148:48	206	5.575
A	760:49	217	3.506

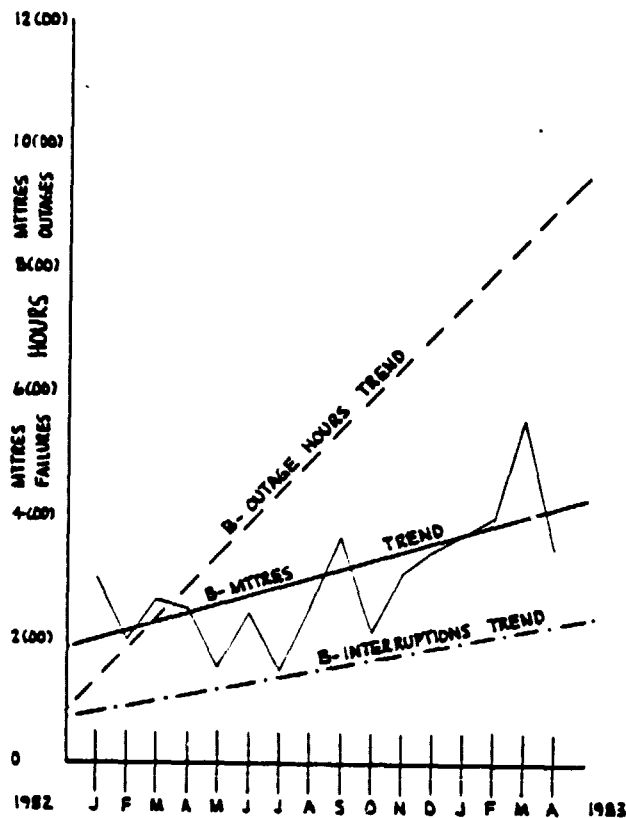


FIG.4: 16 MONTH B-CATEGORY MTTRES TREND.

Figure 4: SUMMARY

Since January 1983, Network Review and Analysis has presented several network MTTRes illustrations. Shown above is another example, and in this case the commercial carriers' impact since the network utilizes 99.50% leased services. Category "B," as defined in the trouble category legend, was plotted for the last 16 months. Commencing September 1982, the mean-time-to-restore data has increased steadily. Leased service interruptions and faults commencing August 1982 have proportionally increased. Factors affecting this trend may be the divestiture of AT&T and the formation of independent BOC's.

May 1983

SPECIAL PRESENTATION

Analysis of Nascom Network Analog Wideband Data Circuits (WBD)

Introduction

An analysis of all analog wideband data (WBD) circuits was performed by Network Review and Analysis (NR&A) for 12 months; May 1982 through April 1983. The purpose of the study was to determine the WBD system availability and reliability. The data contained herein was compiled from the maintenance data historical records and is presented in the table. Refer to the Nascom System Development Plan (NSDP) for a more detailed overview and definitions.

Data Discussion

The analysis was conducted in a continuing attempt to isolate specific problems within the NASCOM Network. The table shows the monthly statistics since May 1982 and includes the operational hours, the number of corrective-maintenance-actions (CMA's), the mean-time-between-corrective-maintenance-actions (MTBCMA), the monthly accrued outage hours, the mean-time-to-restore (MTTRes) calculation, and the respective availability for the month. The WBD system has exhibited superior operational support for the past 12 months. For the interval, 112593.0 scheduled operational hours were logged on 14 circuits. There were 7 CMA's thereby establishing a MTBCMA baseline of 16084.7 hours and a MTTRes baseline of 5.128 hours. The system failed to meet the network availability objective one month however the overall 99.97% parameter reflects high reliability towards mission support. The outage that occurred in July 1982 on RMW-2 for 24:20 hours (Madrid STDN/Robledo) was due to an open condition caused by man-made damage between NASCOM and the site. In September 1982, an outage on GWAP-8090-T (Houston via Satcom) for 3:46 hours was restored by increasing output power at the Greenbelt transmitter. Another circuit, GWAP-8045-T (Sioux Falls via Satcom) was also affected for the same length of time. On November 16th, NCW-102 (Canberra) failed for 40 minutes; it cleared while checking. On February 8, 1983, GWAP-8045-T was again affected for 40 minutes. The commercial carrier increased power at Greenbelt and changed antennas. Two outages affected the MTBCMA for March 1983. On the seventh, GWAP-8045-T failed due to negative contact and was cleared while checking 1:57 hours later. The second interruption impaired NCW-102 on the twenty-ninth due to a broken interconnect wire at Mt. Stromlo, Australia, lasting for 45 minutes.

WBD Summary

The data shown in this special presentation of the NASCOM-WBD indicates that the system is operating above network standards and objectives. In the "Data Discussion" it appears that GWAP-8045-T is the only circuit having multiple outages. The WBD MTTRes baseline of 5.128 hours is not an adverse condition although it is worse than the established 2.92 hours network parameter. NR&A will continue to monitor the WBD system and report anomalies as they arise.

ANALOG WIDEBAND DATA (WBD), MAY 1983

MO./YR.	OP. HOURS	CMA's	MTBCMA	OUT. HOURS	MTRES	AVAIL.
MAY 82	9364.0	0	13512.26	0	0	100.00
JUN 82	9288.0	0	13402.6	0	0	100.00
JUL 82	9362.0	1	9362.0	24:20	24.33	99.74
AUG 82	9565.0	0	13802.31	0	0	100.00
SEP 82	9282.0	2	4641.0	7:32	3.7666	99.91
OCT 82	9637.0	0	0	0	0	100.00
NOV 82	9306.0	1	9306.00	:40	.666	99.99
DEC 82	9613.0	0	13871.6	0	0	100.00
JAN 83	9577.0	0	13819.6	0	0	100.00
FEB 83	8680.0	1	8680.0	:40	.666	99.99
MAR 83	9601.0	2	4800.5	2:42	1.350	99.97
APR 83	9318.0	0	13445.88	0	0	100.00
	112593.0	7	16084.7	35:54	5.128	99.97

CALCULATE

BASELINE

TROUBLE CATEGORIES LOST TIME AND EVENTS

A	B	C	D	E	F	G	M	N	P	OUTAGE	AVAIL
	4	2					1			7	
	8:57	2:37					24:20			35:54	

EVENTS

LOST TIME

MAINTENANCE MANAGEMENT REPORT FOR MAY 1983

ORIGINAL PAGE IS
OF POOR QUALITY

NETWORK REVIEW AND ANALYSIS DATA ACTIVITY

1.0	<u>TROUBLE TICKETS RECEIVED</u>	299
2.0	<u>NO. OF CIRCUITS RELEASED FOR MAINT. OR OTHER PURPOSES</u>	47
3.0	<u>NUMBER OF COMMUNICATIONS SERVICE AUTHORIZATION (CSA's) RECEIVED</u>	55
4.0	<u>ANALYSES IN PROGRESS</u>	

The following analyses are in progress and will be presented in future reports:

- o GWDD-8014, Houston (JSC) via SATCOM;
- o GDA-58550, Bermuda via Andover;
- o GDA-58456, Madrid via TAT-5 Cable;
- o GDA-59052, Madrid via TAT-6 Cable;
- o E-1044, Madrid via Etam;
- o NASCOM NETWORK TELETYPE CIRCUITS.

NR&A WILL CONSIDER ANALYSIS OF ANY CIRCUIT NOMINATED BY THE READER THAT MAY WARRANT FAILURE ANALYSIS. PLEASE COMPLETE THE FORM BELOW AND MAIL TO THE ADDRESS SHOWN ON PAGE 3 OF THIS AVAILABILITY REPORT.

SITE: _____ CIRCUIT(S) NO: _____

DATE: _____

TRBL. NARRATIVE: _____

SIGN: _____ SUPV. APPROVAL: _____

GLOSSARY

Abbreviation	Name	Location
ACT	Australian Capital Territory	Australia
AFB	Air Force Base	
AFCERL	Air Force Communications Electronic Research Lab	Hanscom Field, Mass.
AFETR	Air Force Eastern Test Range	Patrick AFB, FL.
AFWTR	Air Force Western Test Range	Vandenberg AFB, CA.
AFS	Air Force Station	
ALASCOM	Alaska Communications, Inc.	U.S.A.
ARC	Ames Research Center	Moffett Field, CA.
ASC	American Satellite Corporation	U.S.A.
ATC	Australian Telecommunications Commission	Australia
ATT	American Telephone and Telegraph Company	U.S.A.
AOS	Atlantic Ocean Satellite	
BTI	British Telecommunication International	Great Britain
bps	bits per second	
BTCF	Buckhorn Technical Control Facility	Buckhorn, CA.
CD&SC	Communications Distribution & Switching Center	Kennedy Space Center, FL.
CITCO	California Interstate Telephone Co.	California
CCAFS	Cape Canaveral Air Force Station	Florida
CMA	Corrective Maintenance Action	
COMMEN	Communications Center	
COMPAC	Trans-Pacific Submarine Telephone Cable	Vancouver/Honolulu/Sydney
COMSAT	Communications Satellite Corporation (Agent for INTELSAT)	Worldwide
COMSTAR	AT & T Domestic Satellite	
COTC	Teleglobe Canada	Canada
CRC	Communications Research Center	Shirley's Bay, Can.
CTNE	Compania Telefonica Nacional De Espana	Spain
CTO	Communications Technical Office	
CUC	Computer Usage Corporation	Bethesda, MD.
CWL	Cable & Wireless Limited	Atlantic Islands

GLOSSARY (Cont'd)

Abbrevi- ation	Name	Location
C&P	Chesapeake & Potomac Telephone Co.	U.S.A.
DAT	Analog Narrowband Data	
DCA	Defense Communications Agency	U.S.A.
DCR	Daily Communications Report	
DDS	Digital Narrowband Data	
DFRC	Dryden Flight Research Center	Edwards AFB.
DOD	Department of Defense	U.S.A
DSCC	Deep Space Communication Center	Canberra, Australia
DSS	Deep Space Site	
ENTEL	Empresa Nacional de Telecomunicaciones	Chile
ETE	External Telecommunications Executive	England
FAA	Federal Aviation Agency	U.S.A.
FTC	French Telecommunications, Inc.	NY
GDA	Ground Data Alternate	
GE	General Electric	Valley Forge, PA.
GP	Government Post Office (Agent for ETE)	England
GSFC	Goddard Space Flight Center	Greenbelt, MD.
HF	High Frequency	
ICS	International Communications Senegal	Dakar
IMC	International Maintenance Control	
INTELSAT	International Telecommunications Satellite Consortium	Worldwide
IOS	Indian Ocean Satellite	
ITT	ITT World Communications, Inc.	Worldwide
JHU	Johns Hopkins University (Applied Physics Laboratory)	Baltimore, MD.
JPL	Jet Propulsion Lab, Cal Tech. U.	Pasadena, CA.
JSC	Johnson Space Center	Houston, TX.
kbps	kilobits per second	
kHz	KiloHertz	
KSC	Kennedy Space Center	Merritt Island, FL.
LERC	Lewis Research Center	Cleveland, OH.
LRC	Langley Research Center	Hampton, VA.
M-	Mainland Cable (M-1, etc.)	California/Hawaii

GLOSSARY (Cont'd)

Abbrevi- ation	Name	Location
MCC	Mission Control Center	Johnson Space Center, TX
MCI	MCI Telecommunications Inc.	U.S.A.
MHz	MegaHertz	
MIT	Massachusetts Institute of Technology	Cambridge, MA.
MOBLAS	Mobile Laser Van	
MSFC	Marshall Space Flight Center	Huntsville, AL.
MTBCMA	Mean-Time-Between-Corrective- Maintenance-Actions	
MTBF	Mean-Time-Between-Failure	
MTTR	Mean-Time-To-Repair	
MTTRes	Mean-Time-To-Restore	
NASCOM	NASA Communications	Worldwide
NCAR	National Center for Atmospheric Research	Boulder, CO.
NOAA	National Oceanic and Atmospheric Administration	Suitland, MD.
OTC	Overseas Telecommunications Commission	Australia & Pacific
PDL	Ponce De Leon	Florida, U.S.A.
POS	Pacific Ocean Satellite	
PTT	Pacific Telephone & Telegraph Company	U.S.A.
RCA	RCA Global Communications, Inc.	Worldwide
RCAAM	RCA American Communications, Inc.	U.S.A.
RFO	Reason for Outage	
RI	Rockwell International Corporation	Downey, CA.
SAO	Smithsonian Astrophysical Observatory	Cambridge, MA.
SATCOM	RCA American Comm Inc. Domestic Satellite	
SBT	Southern Bell Telephone Company	U.S.A.
SLC	Science Laboratory Corp.	El Segundo, CA.
SPAR	SPAR Aerospace Agency	Weston, Canada
STDN	Satellite Tracking & Data Network	

GLOSSARY (Cont'd)

Abbrevi- ation	Name	Location
SWB	Southwestern Bell Telephone Company	U.S.A.
TAT	Trans-Atlantic Submarine Telephone Cable (TAT-1, 2, etc.)	U.S.A. East Coast/ Europe
TDRSS	Tracking Data Relay Satellite System	U.S.A.
TRANSPAC	Trans-Pacific Submarine Cable (ATT)	Hawaii/Guam
TRT	TRT Telecommunications Corporation	Worldwide
TTY	Teletype	
UHF	Ultra High Frequency (300-3000 MHz)	
USGS	United States Geological Survey	U.S.A.
VDA	Analog Alternate Voice/Data	
VF	Voice Frequency	
VFTG	Voice Frequency Telegraph Terminal	
VFX	Facsimile	
VHF	Very High Frequency (30-300 MHz)	
VID	Video	
VOC	Analog Voice Grade	
WBD	Analog Wideband Data	
WCSC	West Coast Switching Center	Pasadena, CA.
WDD	Digital Wideband Data	
WESTAR	Western Union Domestic Satellite	
WSMC	Western Space and Missile Center	Vandenberg, CA
WUI	Western Union International, Incorporated	Worldwide
WUT	Western Union Telephone Company	U.S.A.